

SERVICE MANUAL

AEP Model



SPECIFICATIONS

Refer to ACP-88 Service Manual issued previously for information of ac pack/battery charger ACP-88 supplied with this set.

Tape	Digital audio tape
Recording system	Rotary head
Recording time	120 minutes (with DT-120)
Tape speed	8.15 mm/s
Drum rotation	Approx. 2,000 rpm
Error correction	Double Reed Solomon code
Number of channel	2 channels, stereo
D/A conversion	16-bit linear
Frequency response	20-22,000 Hz (± 1 dB)
Signal-to-noise ratio	More than 85 dB
Dynamic range	More than 90 dB (at 1 kHz)
Total harmonic distortion	Less than 0.008% (at 1 kHz)
Wow and flutter	Below measurable limit

Input

Input jacks	Jack type	Impedance	Minimum input level
LINE IN MICROPHONE	Phono $\times 2$ Phone $\times 2$	50 kohms for low impedance microphone	35 mV 0.3 mV

Output

Output jacks	Jack type	Impedance	Rated Output	Load impedance
LINE OUT	Phono $\times 2$	470 ohms	0.25 V	more than 10 kohms
HEADPHONES	Stereo phone	150 ohms	0 to 18 mV	32 ohms

Tape

Track pitch	13.6 μm (20.4 μm)
Sampling frequency	for playback: 48 kHz, 44.1 kHz, 32 kHz for recording: 48 kHz
Modulation system	8—10 Modulation
Transfer rate	2.46 Mbit/sec. (before modulation)

Model Name Using Similar Mechanism	DTC-1000ES
Tape Transport Mechanism Type	DATM-02

General

Power requirements	6 V in DC operation 100-240 V AC, 50/60Hz using the AC pack (supplied) Approx. 2 hours of continuous recording with the supplied NP-22H battery pack fully-charged
Battery life	6.5 W using NP-22H Full range: 50 mm dia., cone type
Power consumption	200 mW in DC operation
Speaker	Approx. 253 \times 55 \times 191 mm (10 \times 2 1/4 \times 7 5/8 inches) (w/h/d) excluding projecting parts and controls
Power output	Approx. 1.8 kg (4 lbs) including batteries
Dimensions	Approx. 1.5 kg (3 lbs 5 oz) excluding batteries
Weight	

—Continued on page 2—



T 41990

DIGITAL AUDIO TAPE CORDER
SONY®

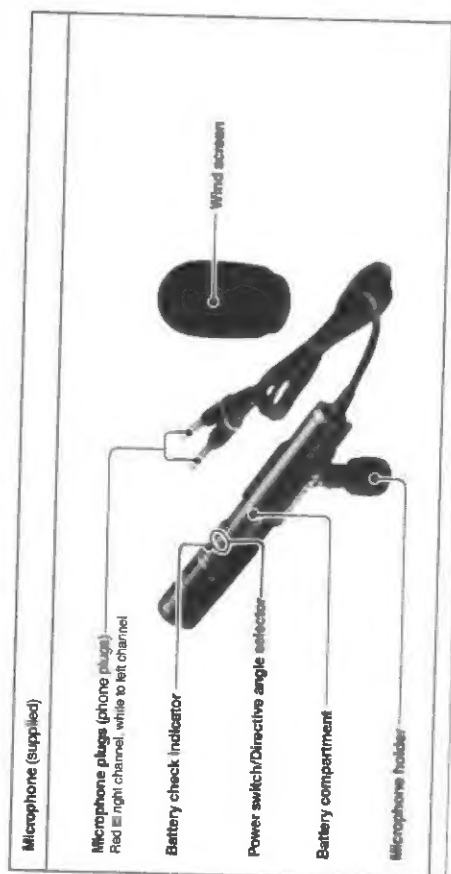
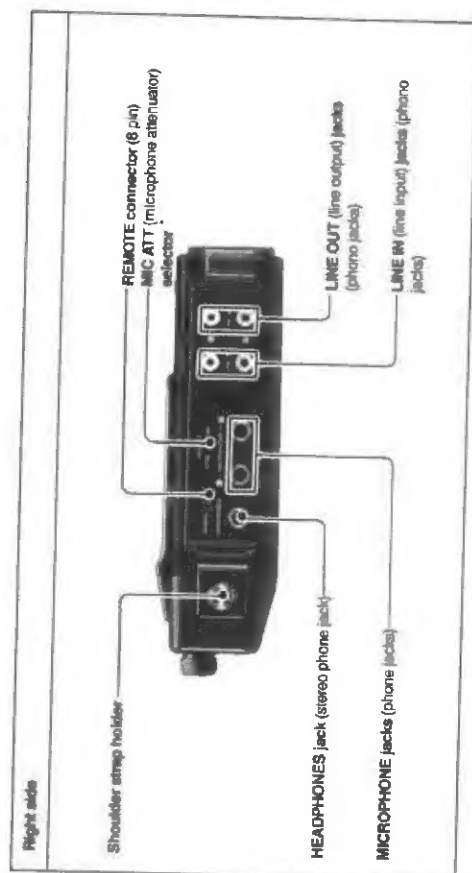
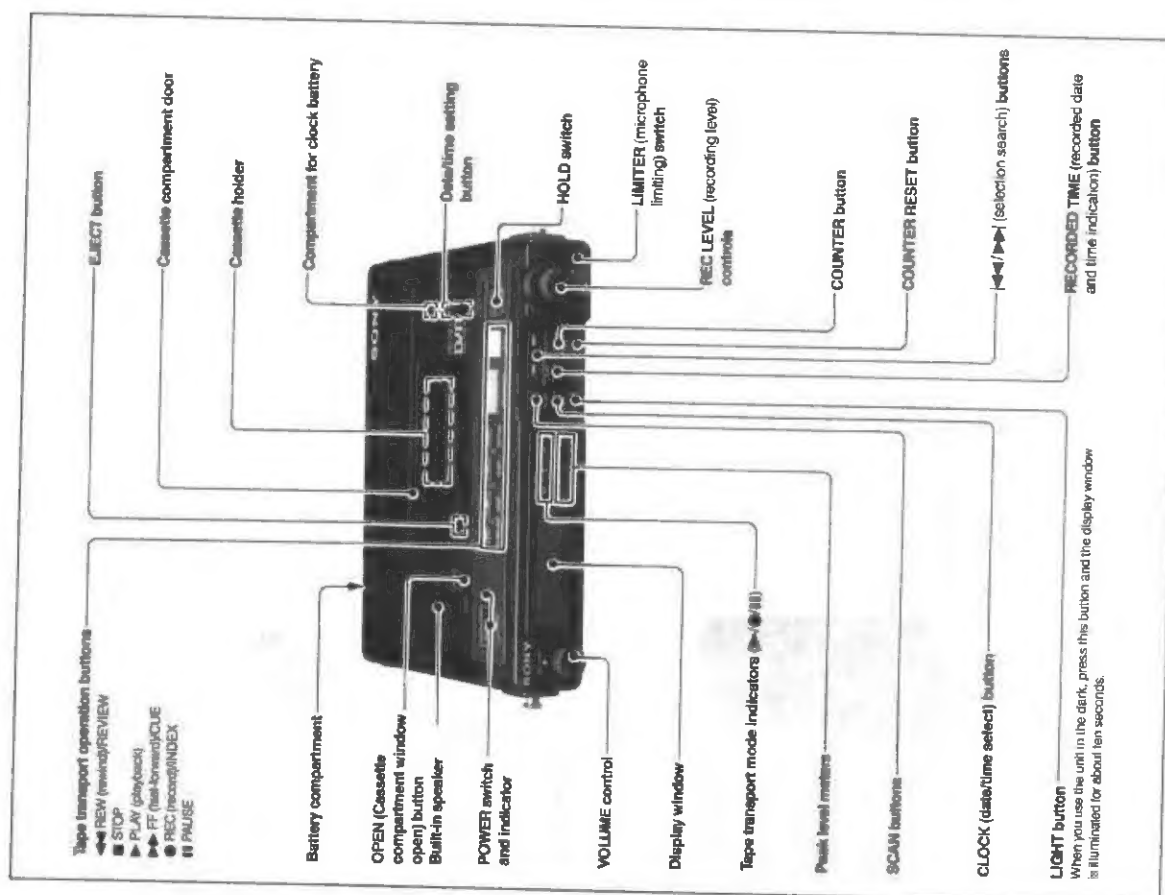
Microphone (supplied)	
Type	Electret condenser microphone (with back-electret condenser capsules)
Microphone output connector	Phone plugs (2)
Dimensions	Approx. 30 × 175 mm (1 3/16 × 7 inches) (outside diameter × length)
Weight	Approx. 216 g (7.7 oz) including batteries
Frequency response	50 Hz — 18,000 Hz
Directivity	Directive angle: Selectable between 90° and 120°
Output impedance	550 ohms ± 20%, unbalanced
Output level (at directive angle 120°)	Open circuit output voltage: 68 dB, ± 3 dB 0 dB = 1 V/1 μ bar, 1000 Hz Recommended load impedance more than 3 kohms
Power requirements	R6 (size AA) battery Normal operating voltage: 1.5 V Minimum operating voltage: Approx. 1.1 V
Battery life	Approx. 2500 hours of continuous operation with Sony SUM-3 (NS) battery
Noise level (at directive angle 120°)	Signal-to-noise ratio: More than 49 dB. (1000 Hz, 1 μ bar) Inherent noise**: Less than 25 dB SPL (0 dB SPL = 2 × 10 ⁻⁴ μ bar) Wind noise* (with wind screen): Less than 45 dB SPL Induction noise from external magnetic field***: Less than 10 dB SPL * Wind noise is the value measured by applying a wind velocity of 2 m/sec. (6.6 ft/sec.) from all directions to the micro- phone. The mean value is taken and converted to the equivalent input sound level. ** The external magnetic field induction noise is measured with the microphone placed in an alternating magnetic field of 50 Hz, 1 milligauss. The maximum noise value is taken and then converted to the equivalent input sound level. *** Induction noise from external magnetic field
Maximum sound pressure level	More than 117 dB SPL
Dynamic range	More than 92 dB
Accessories supplied	
Remote controller (1)	
Microphone (with wind screen and microphone holder) (1)	
Carrying case (1)	
Shoulder strap (1)	
AC pack ACP-D10 (1)	
Battery charge adaptor BC-D10 (1)	
Battery pack NP-22H (1)	
Lithium battery CR2025 (1)	
Sony battery SUM-3 (NS) for microphone (1)	
DAT cassette tape	
Connecting cord (two phono plugs ↔ two phono plugs) (2)	

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
SECTION 1 GENERAL		
1-1.	Location of Parts and Controls	3
1-2.	Repair Check Points and Cautions	5
1-3.	Test Mode	7
1-4.	Operation in Test Mode	7
1-5.	IC's Pin Description	8
SECTION 2 DISASSEMBLY		
2-1.	Knob	17
2-2.	Cassette Compartment's Dress Panel	17
2-3.	Cabinet (Upper)	17
2-4.	Control Motor	18
2-5.	Drum	18
2-6.	Jack Plate	18
2-7.	Cabinet	19
2-8.	Reel Motor	19
2-9.	Capstan Motor	19
SECTION 3 MECHANICAL ADJUSTMENTS		20
SECTION 4 ELECTRICAL ADJUSTMENTS		23
SECTION 5 DIAGRAMS		
5-1.	Block Diagram	31
5-2.	Circuit Boards Location	33
5-3.	Printed Wiring Board—Main Section— ..	34
5-4.	Schematic Diagram—Main Section—	37
5-5.	Printed Wiring Board—Analog Section— ..	43
5-6.	Schematic Diagram—Analog Section—	45
5-7.	Printed Wiring Board—Display Section— ..	48
5-8.	Schematic Diagram—Display Section—	51
5-9.	Semiconductor Lead Layouts	54
5-10.	Waveforms	55
SECTION 6 EXPLODED VIEWS		
6-1.	Cabinet Section	59
6-2.	Front Panel Section	60
6-3.	Chassis Section	61
6-4.	Mechanism Section (DATM-02).....	62
6-5.	Mechanism Section (DATM-02).....	63
SECTION 7 ELECTRICAL PARTS LIST		65

SECTION 1 GENERAL

1-1. LOCATION OF PARTS AND CONTROLS



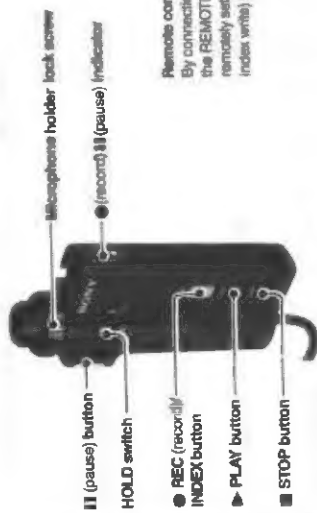
Attaching the wind screen
The wind screen reduces wind or breath noise



Notes on using the supplied microphone

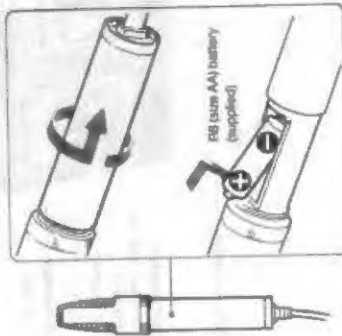
- The microphone should never be dropped or otherwise subjected to extreme shock.
- Keep the microphone away from extremely high temperatures (above 60°C or 140°F).
- If the microphone is placed near loudspeakers, a howling effect (acoustic feedback) may occur. If this happens, change the direction of the microphone until the howling stops, or decrease the sound volume of the loudspeakers.

Remote controller



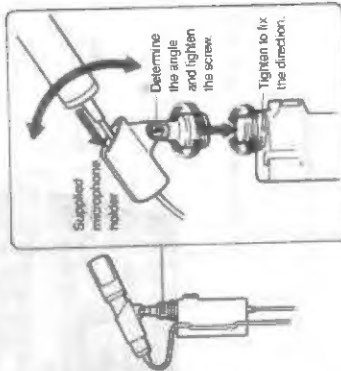
Remote control operation
By connecting the connector plug of the remote controller to the REMOTE jack on the right side of the recorder, you can remotely set the recorder in the playback or record (including index write) mode. (Cable length is approximately 1 meter.)

Battery installation



To check the battery condition of the microphone
When the power switch is moved from OFF to ON (ON), the battery check indicator will light momentarily. When the battery becomes weak, the indicator will light dimly or will not light at all. In this case, replace the battery with new one. For battery life, see Specifications on page 22.

Attaching the microphone to the remote controller

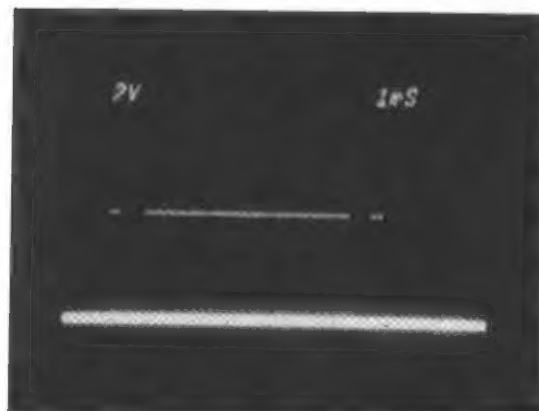


Notes on the remote controller

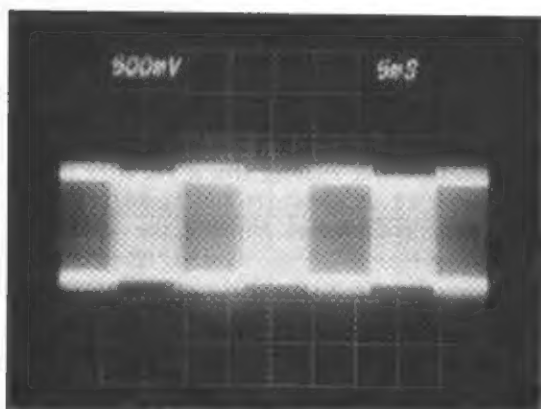
- Before connecting or disconnecting the connector plug of the remote controller, be sure to turn off the power of the recorder.
- If anything metallic touches the REMOTE connector on the right side of the recorder, it may be treated as a remote control signal and so the operating mode may change unexpectedly.

1-2 REPAIR CHECK POINTS AND CAUTIONS

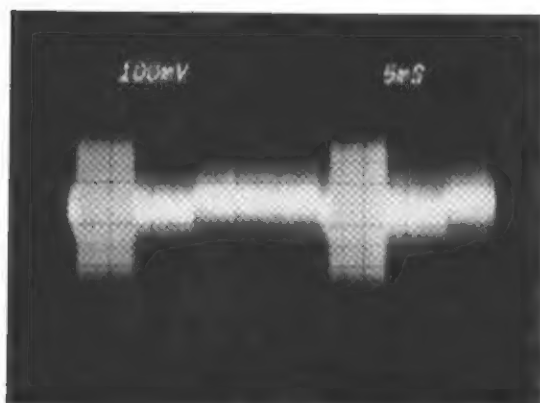
1. When the TCD-D10 contains a chargeable battery, power is supplied to IC507 only. When the POWER switch is pressed, power is supplied to the LED or LCD display. When the PLAY switch is pressed, power is supplied to the MD block.
2. For troubleshooting, put the set into test mode 2 and check that the power clock oscillates.
3. When power is not applied after the POWER switch is pressed, assume that power is not supplied to IC507, a reset signal is supplied to pin ⑦ of IC507, or the POWER switch is defective. (Power is turned on or off whenever the signal at pin ④ of IC507 goes low.)
4. The system is normal if the amplitude at TP521 exceeds 220mVp-p when the FF button is pressed with alignment tape TY-7251 loaded in test mode 1. If the amplitude is less than 220mVp-p, assume that the head is dirty or the RF block is defective.
5. The RF block is normal if signal ① is sent to pin ④ of IC529 and signal ② exceeding 110mV is output to TP520.
6. The RF amplifier (consisting of Q540 through Q542) is defective if a signal exceeding 110mV is sent to TP520 and a signal exceeding 220mV is not output to TP521. (The output ratio of TP521 and TP520 is 2 to 1.)
7. When VCO or ATF is normal, a CRC pulse ③ is output from pin ④ of IC502. The VCO or ATF can thus be checked using the pulse.



③

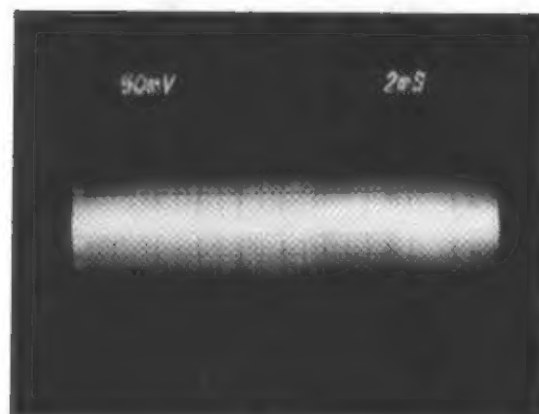


①



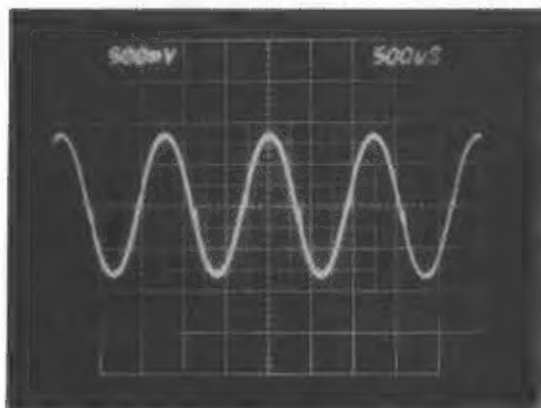
②

8. ATF is locked using IC515 when the signal at pin ⑨ of IC515 is low. When it is high, ATF is not locked.
9. The head is normal if signal ④ appears when an oscilloscope is connected to the head output.

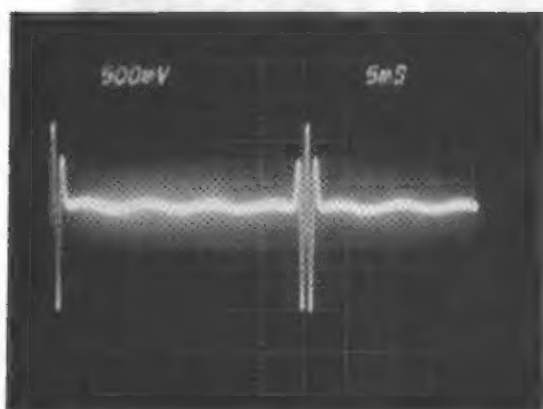


④

10. The drum sensor is normal if drum FG signal ⑤ (at pin ① of IC519) and drum PG signal ⑥ (at pin ⑭ of IC519) appear as shown below.



⑤



⑥

11. The signal at pins ⑧ and ②③ of IC502 goes high when the drum servo is normal.

12. An SWP signal (at pin ④⑤ of IC502) is produced from a drum PG signal (pin ⑦ of IC520) and drum FG signal (at pin ①) using IC502). A DPG signal (at pin ④④ of IC502) is then produced from the SWP signal.

IC502

Drum PG
(at pin ⑫)

SWP
(at pin ④⑤)

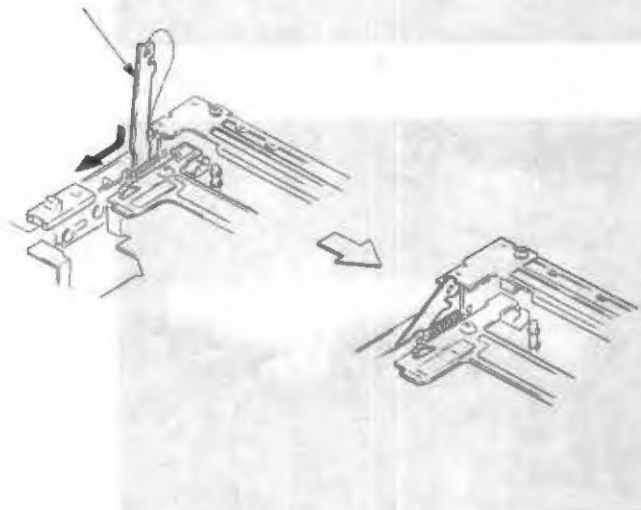
Drum FG
(at pin ①①)

DPG
(at pin ④④)



13. Cassette cannot be loaded when the TCD-D10's cabinet is removed. The system can operate normally when the cassette cover opening arm is set after the cassette is inserted as shown in the figure below. (When the lever is not released, however, the cassette cannot be ejected.)

Cassette cover opening arm



1-3. TEST MODE

1. The test mode is entered when all power to the system is turned off (all power off) and test mode 1 or 2 on the main board is solder-bridged (see Fig. (1)).
2. The test mode is entered as soon as the POWER switch is turned on.
(The normal mode is entered when the POWER switch is turned off in the test mode.)
3. The test mode is canceled and the normal mode is entered when the portion solder-bridged in Step 1 is open in the all power off mode and power is turned on.
4. The stop position is changed if power is turned on again in the all power off mode and the test mode is entered when the test mode is entered in the STOP mode. Put the set into the loading mode again.
5. All LCDs flash when test mode 1 is entered. The display is the same as in the normal mode when test mode 2 is entered.

Note: Be sure to return the set to the normal mode after repair.

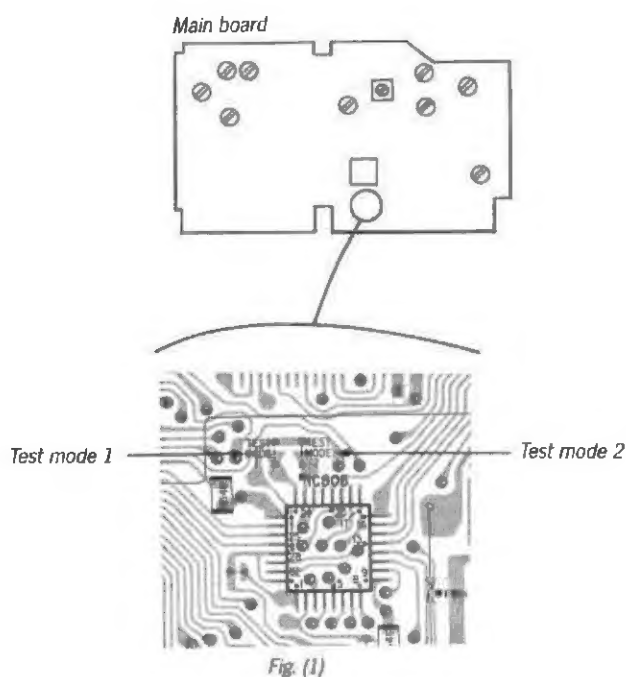


Fig. (1)

1-4. OPERATION IN TEST MODE

Test mode 1

Mode	Operation key
Loading	COUNTER
Unloading	CLOCK
$\times 1.5$	FF
$-\times 1.5$	REW
STOP	STOP

Test mode 2

Mode	Operation key
Loading	COUNTER
Unloading	CLOCK
CUE ($\times 16$)	Press the PLAY button in CUE ($\times 2.5$) mode.
REVIEW ($-\times 16$)	Press a PLAY button in REVIEW ($-\times 2.5$) mode.
REC	Press REC and PLAY buttons at the same time (not actually recorded).

Other operations are the same as in normal mode.

1-5. IC'S PIN DESCRIPTION

IC401(CXA1045Q)

Pin No.	Symbol	Description
1	POATA	PB signal output terminal.
2	NC	
3	PLIM IN	PB limiter input terminal.
4	PLIM PC	PB limiter bypass capacitor connection terminal.
5	EQ OUT	PCM equalizer output terminal.
6	LOW	Resistor connection terminal which determines the PCM equalizer's low-range characteristics.
7	HIGH	Resistor connection terminal which determines the PCM's equalizer high-range characteristics.
8	PHASE	Resistor connection terminal which determines the PCM's equalizer phase characteristics.
9	P Vcc	Power terminal for PB and control logic systems other than head amplifier limiter.
10	EQ IN	PCM equalizer input terminal.
11	NC	
12	SW OUT	Switch amplifier output terminal for output from two channels.
13	B 2ND OUT	B-CH second RF amplifier output terminal.
14	B HCTL	Resistor connection terminal which determines the B-CH PB low-pass filter's cut-off frequency.
15	A 2ND OUT	A-CH second RF amplifier output terminal.
16	A HCTL	A-CH PB low-pass filter.
17	B PC2	B-CH second RF amplifier's bypass capacitor connector terminal.
18	REF PC	REF block bypass capacitor connection terminal.
19	NC	
20	P GND	GND terminal for PB system other than head amplifier limiter.
21	A PC2	A-CH second RF amplifier's bypass capacitor connection terminal.
22	B RACTL	Usually not used.
23	B RAIN	B-CH REC AMP input terminal.
24	B RLV OUT	REC limiter control's B-CH output terminal.
25	B RA OUT	B-CH REC AMP output terminal.
26	B PIN	B-CH head amplifier input terminal.
27	B PC1	B-CH.
28	HA Vcc	Head amplifier's power terminal.
29	B HA OUT	B-CH head amplifier's output terminal.
30	HA GND	Head amplifier's GND terminal.
31	RA GND	REC amplifier's GND terminal.
32	A HA OUT	A-CH head amplifier's output terminal.
33	RA Vcc	REC amplifier's power terminal.
34	A PC1	A-CH head amplifier's bypass capacitor connection terminal.
35	A PIN	A-CH head amplifier's input terminal.
36	A RA OUT	A-CH REC amplifier's output terminal.
37	A RLV OUT	REC limiter control's A-CH output terminal.
38	A RAIN	A-CH REC amplifier's input terminal.
39	A RACTL	Usually not used.
40	AF REC	Logic terminal to enter the after-recording mode (not used in TCD-D10).
41	RP	Control terminal to designate REC and PB modes (H: REC, L: PB, Open: L).
43	LIM GND	GND terminal for PB and REC limiter controls.
44	SAG	REC sag compensation capacitor connection terminal.
45	LIM Vcc	Power terminal for PB and REC limiter controls.
46	RDATA IN	Terminal to input recorded data to a REC limiter controls.
47	BR VOL	REC limiter control's B-CH amplitude adjustment terminal.
48	AR VOL	REC limiter control's A-CH amplitude adjustment terminal.

IC502(CXD1052Q)

Pin No.	Symbol	Description
1	94M	Master clock input terminal (9.408MHz).
2	128K	Servo reference input terminal (12.8kHz).
3	XCLR	Rest input terminal. Reset by low level.
4	PCOT	Capstan phase comparison output terminal. A state output.
5	DVS2	Setting of voltage applied to the drum motor when servo is applied during SEARCH.
6	VSS	GND.
7	CFG	Capstan FG input terminal.
8	JTSP	Just speed monitor terminal. Set to the just speed in high level.
9	CFG0	Capstan FG output terminal.
10	DVS1	Setting of voltage applied to the drum motor when servo is applied during SEARCH.
11	DFG	Drum FG input terminal.
12	LPG	Drum PG input terminal.
13	SPPW	Speed servo PWM output terminal.
14	PHPW	Phase servo PWM output terminal.
15	BSPW	Bias servo PWM output terminal.
16	CREF	Capstan frequency reference output terminal (unused).
17	RFDT	RF signal input terminal. (The existence of a signal is indicated by the signal being "1" or "0". The result is input to IC.)
18	RFW	RF window output terminal. The RF signal is detected by low level.
19	VDD	+5V power terminal.
20	TST1	Test input terminal. Usually set to low.
21	TIO1	Test output terminal. Usually set to low.
22	XC16	Capstan mode select input terminal. Set to x16 mode by low level.
23	JSTL	Just lock monitor terminal. Just locked by high level.
24	TIN4	Test input terminal. Usually set to low.
25	TIN1	Test input terminal. Usually set to low.
26	ARST	Alarm cancel input terminal in SEARCH mode. Canceled by low level.
27	XDON	Drum ON/OFF select input terminal. Set to ON by low level.
28	TIN3	Test input terminal. Usually set to low.
29	TOU3	Test output terminal.
30	TOU3	Test output terminal.
31	VSS	GND.
32	TIO2	Test output terminal. Usually set to low.
33	XALM	Alarm output terminal in SEARCH mode. Alarmed by low level.
34	XVAR	External reference setting terminal (pin 2). Usual set to high.
35	XREW	FF/REW setting terminal. Set to REW by low level.
36	XSER	SEARCH mode setting terminal. Set to SEARCH by low level.
37	DBRK	Drum brake output terminal. Brake set on by high level.
38	TOU1	Test output terminal.
39	TOU2	Test output terminal.
40	TIN5	Test input terminal. Usually fixed to low.
41	DREF	Drum PG reference input terminal.
42	TST2	Test input terminal. Usually set to low.
43	VDD	+5V power terminal.
44	DPG	Delay PG (DPG) input terminal.
45	SWP	Switching pulse output terminal.
46	PLLK	Drum lock monitor output terminal in SEARCH mode. Locked by high level.
47	CRC	CRC signal input terminal. CRC OK for high level.
48	RPCK	Reference input terminal in SEARCH mode.

IC507(μ PD75108GF)

Pin No.	Symbol	Description
1	MUTE	Audio circuit's mute output.
2	PBLED	PB LED ON output.
3	PAUED	PAUSE LED ON output.
4	CLCK	Real-time clock IC's serial clock output.
5	CLSTB	Real-time clock IC's strobe output.
6	CLDO	Real-time clock IC's serial data output.
7	RESET	Reset input.
8	X ₂	Clock oscillation terminal.
9	X ₁	Clock oscillation terminal.
10	KCK	Input expansion IC's serial clock output.
11	L/S	Input expansion IC's parallel load output.
12	SD1	Input expansion IC's serial data output.
13	SD0	Input expansion IC's serial data output.
14	LCDCK	LCD driver's serial clock output.
15	CS	LCD driver's chip select output.
16	C/D	LCD driver's command/data select output.
17	LCDD	LCD driver data output.
18	DTCTL1	Subcode data control output 1.
19	DTCTL2	Subcode data control output 2.
20	BL	Back-light control.
21	ALMRES	CXD1052Q's drum defect reset output (in SEARCH only).
22	XREW	Tape transport output.
23	XDON	Drum servo ON/OFF control output.
24	XSER	SEARCH mode output to drum servo.
25	XC16	Capstan servo constant select output in $\times 16$ mode.
26	V _{SS}	
27	CLDI	Serial data input from real-time clock IC
28	SBSY	Subcode sync.
29	REELS	Reel motor FG's supply input.
30	REELT	Reel motor FG's take-up input.
31	ATD1	PB ATF signal.
32	RF	PB output detection input.
33	XALM	Drum defect in SEARCH mode.
34	BATT	Battery voltage detection input.
35	CDIRI	Flag input to reverse the capstan rotation.
36	GND	
37	POWO	DD converter power ON/OFF output.
38	EMP	Emphasis control output.
39	RECLED	REC LED ON output.
40	RES	System reset output.
41	SUBDTI	Playback subcode data input.
42	SUBDTO	Subcode data output from microcomputer in REC mode.
43	EXCK	Subcode data output from microcomputer.
44	POWI	Power switch.
45	PAUSE	PAUSE mode output.
46	CPH	Capstan motor's phase servo ON/OFF output.
47	CMON	Capstan motor ON/OFF control output.

Pin No.	Symbol	Description
48	CDIRO	Capstan motor rotation output.
49	TREG	ON/OFF output for tension regulator and D/A output select control.
50	RCK	D/A converter's serial clock output.
51	RSTB	D/A converter's strobe output.
52	RDT	D/A converter's serial data output.
53	XTLOCK	Take-up reel lock in load/unload mode.
54	ATFON	ATF control output.
55	PLG-	Brake on.
56	PLG+	Brake release.
57	NC	
58	V _{DD}	
59	SWP	Drum PG signal.
60	END T/S	Take-up sensor input for tape end detection.
61	LEDS	End detection LED ON output at supply reel.
62	LEDT	End detection LED ON output at take-up reel.
63	UNLOAD	Tape loading motor's reverse output.
64	LOAD	Tape loading motor's forward output.

IC515(CXA1046M)

Pin No.	Symbol	Description
1	RF IN	RF input terminal.
2	F CTL	External resistor connection terminal for pilot filter (LPF) characteristics.
3	B VOL	B-CH gain adjustment resistor/bypass capacitor connection terminal of gain control amplifier.
4	A VOL	A-CH gain adjustment resistor/bypass capacitor connection terminal of gain control amplifier.
5	PILOT OUT	Pilot signal output terminal.
6	ENV DET IN	Envelope detection input terminal.
7	ENV HOLP	Envelope detection hold capacitor connection terminal.
8	S/H 3 OUT	Sample and hold 3 output terminal.
9	SWP	Process signal's A-CH/B-CH select control terminal (H: B-CH, L: A-CH).
10	ATFON/OFF	ATF block (other than RF DET) ON/OFF select terminal.
11	NORM PLAY	Determines whether the normal mode is entered (L: Normal mode).
12	ATS1	Sample and hold 1 sample pulse input terminal.
13	TE	Tracking error output terminal.
14	VCC	Power supply.
15	HOLD3C	Sample and hold 3 hold capacitor connection terminal.
16	HOLD2C	Sample and hold 2 hold capacitor connection terminal.
17	ATS2	Sample and hold 2 sample input terminal.
18	ATS3	Sample and hold 3 sample pulse input terminal.
19	SYNC OUT	ATF sync signal output terminal.
20	GND	GND.
21	LIM PC	Limiter block's bypass capacitor connection terminal (can be replaced with pin 22). Negative input.
22	LIM IN	Limiter input terminal (can be replaced with pin 21). Positive input.
23	EQ OUT	ATF sync equalizer output terminal.
24	PCTL	Resistor connection terminal for sync equalizer's phase characteristics.
25	LCTL	Resistor connection terminal for sync equalizer low-range characteristics.
26	DET C1	Smoothing capacitor connection terminal which determines the RF detector's threshold.
27	DET C2	RF envelope waveform's adjustment capacitor connection terminal.
28	RF DET OUT	RF detector output terminal.

IC529(CXD1009Q)

Pin No.	Symbol	Description
1	PTRD	Input from CXD1008Q. (Identifies whether the ECC data is a pointer or data.)
2	PRGE	ECC program end signal (from CXD1008Q).
3	ECA0	ECC code address (from CXD1008Q).
4	ECA1	ECC code address (from CXD1008Q).
5	ECA2	ECC code address (from CXD1008Q).
6	ECA3	ECC code address (from CXD1008Q).
7	ECA4	ECC code address (from CXD1008Q).
8	C1C2	To CXD1008Q (C1 and C2 process identification).
9	PRGS	To CXD1008Q (ECC program start signal).
10	ECRP	To CXD1008Q (ECC encode/decode identification).
11	PREN	To CXD1008Q (ECC external RAM I/O process enable).
12	Vss	GND.
13	CLKO	To CXD1008Q (18.816MHz output).
14	CSET	To CXD1008Q (CXD1008/CXD1009 sync signal).
15	FLCT	To CXD1008Q (control signal).
16	DARE	To CXD1008Q (DA data read enable).
17	SRVS	From CXD1008Q (12.8kHz servo reference signal).
18	C94M	9.408MHz output.
19	PLCK	9.408MHz RF PL playback lock ± 4 .
20	CRCM	W1+W2+parity CRC monitor in PB mode.
21	SWP	Switching pulse input.
22	DPG	DPG pulse input.
23	SVRF	100/3Hz servo reference signal.
24	RSEL	External RAM selection (L: SRAM, H: DRAM).
25	SBSY	Subcode sync signal.
26	SBDT	Operation mode setting and subdata I/O microcomputer interface.
27	EXCK	SBDT I/O clock (from system control).
28	DTC1	SBDT control 1.
29	DTC2	SBDT control 2.
30	LRCK	LR lock (L: L-CH, R: R-CH).
31	WCK	Word clock.
32	EXSY	System sync signal. Master mode: Output, Slave mode: Input.
33	V _{DP}	5V.
34	ATD2	ATF signal. Pilot signal window pulse in REC mode.
35	ATD1	Overall track's tracking information.
36	ATSY	PB ATF signal from CXD1046M.
37	ATS3	On track pilot sampling pulse.
38	ATS2	Adjacent track pilot sampling pulse.
39	ATS1	Adjacent track pilot sampling pulse.
40	RFSF	RF PB signal's envelope detection signal.
41	PHCO	RF PLL's phase comparison signal.
42	TEST	Test terminal. Usually set to low.
43	VCOI	VCO oscillation terminal (input).
44	VCOO	VCO oscillation terminal (output).
45	CKOE	Usually set to low.
46	PBDT	RF PB signal input.
47	XCLR	System clear input. System is cleared when low (during power on reset).

Pin No.	Symbol	Description
48	REDT	RF REC signal output.
49	REPB	REC window pulse.
50	XT1O	18.816MHz crystal oscillator terminal (output).
51	XT1I	18.816MHz crystal oscillator terminal (input).
52	VSS	GND.
53	XEAN	External RAM's external addressing enable.
54	XWE	External RAM WE.
55	XOE	External RAM OE.
56	AD00	External RAM address(LSB).
57	AD01	External RAM address.
58	AD02	External RAM address.
59	AD03	External RAM address.
60	AD04	External RAM address.
61	AD05	External RAM address.
62	AD06	External RAM address.
63	AD07	External RAM address.
64	AD08	External RAM address.
65	AD09	External RAM address.
66	AD10	External RAM address.
67	AD11	External RAM address.
68	AD12	External RAM address.
69	AD13	External RAM address (MSB).
70	D0	External RAM data bus (LSB).
71	D1	External RAM data bus.
72	D2	External RAM data bus.
73	V _{DD}	Power supply (+5V).
74	D3	External RAM data bus.
75	D4	External RAM data bus.
76	D5	External RAM data bus.
77	D6	External RAM data bus.
78	D7	External RAM data bus (MSB).
79	DE	Controls whether the CXD1008Q's data bus is set to the output mode.
80	RW	Identifies whether CXD1008Q reads or writes data.

IC530 (CXD1008Q)

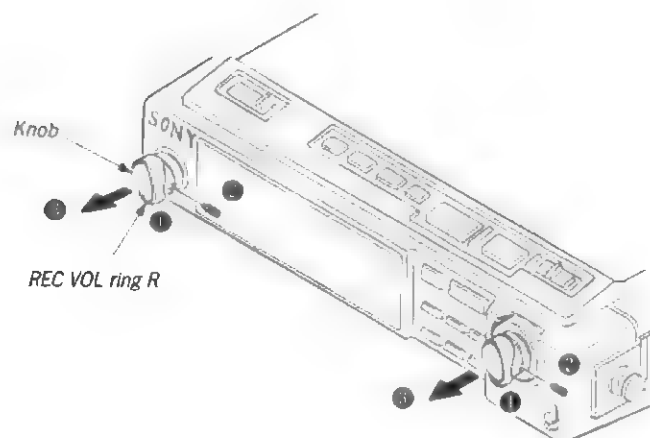
Pin No.	Symbol	Description
1	XRST	Reset terminal. Reset when low.
2	TST1	Test terminal. Usually, set to low.
3	PHCO	Phase comparison signal output to generate variable pitch's 256FS (tristate).
4	TST2	Test terminal. Usually set to low.
5	DALF	Selects whether the DADT serial data is set to LSB first or MSB first. Set to LSB first when high.
6	VCOI	VCO input (variable pitch's 256FS). FS's variable range is within reference $FS \pm 12\%$.
7	ADLF	Selects whether the ADDT serial data is set to LSB first or MSB first. Set to LSB first when high.
8	XT2I	Crystal oscillator circuit 2's input ($44.1\text{kHz} \times 512 = 22.5792\text{MHz}$).
9	XT2O	Crystal oscillator circuit 2's output.
10	V _{ss}	GND (0V).
11	XT3I	Crystal oscillation circuit 3's input ($48\text{kHz} \times 512 = 24.576\text{MHz}$).
12	XT3O	Crystal oscillator circuit 3's output.
13	AUDR	Selects whether the playback data is audio 16-bit data. The audio 16-bit mode is entered when high. No interpolation (1) is done when low. The PCM 16 bits are divided into high-order 8 bits and low-order 8 bits. Their error flags are then output.
14	MNTG	Indicates that error correction status's monitor data is being output to D7 through D0 when high.
15	LRO1	15BCK-delayed LRCK signal.
16	LRO2	16BCK-delayed LRCK signal.
17	LRO3	Inverted LRO2's H and L signals.
18	DFCK	256FS output terminal. Output when FSEN is high; high impedance when FSEN is low.
19	DIOC	128FS input/output terminal. Output when FSEN is high; input when FSEN is low.
20	DADT	DA serial data output data (playback data in PB mode and REC monitor data in REC mode). L-CH data is input or output from ADDT and DADT when LRCK is low. When it is high, R-CH data is input or output.
21	ERRF	DA serial data output error flag. Indicates that there is an error when high.
22	ADDT	AD serial data input (record data input). When LRCK is low, L-CH data is input or output from ADDT and DADAT. When it is high, R-CH data is input or output.
23	XBCK	Inverted "H"/"L" BCK signal.
24	BCK	64F _s input/output terminal. Output when FSEN is high; input when FSEN is low.
25	WCK	2F _s input/output terminal. Output when FSEN is high; input when FSEN is low.
26	V _{DD}	Power supply +5V.
27	LRCK	F _s input/output terminal. Output when FSEN is high; input when FSEN is low.
28	FSEN	Selects whether DFCK, DIOC, BCK, WCK, and LRCK signals should be output. Output when it is high.
29	MUTG	PB/REC data muting control signal. Mute on when it is high; mute off when it is low.
30	PIDN	Variable pitch control signal. Pitch is decreased 0.1% at every leading edge (F _s is decreased 0.1% as compared with reference).
31	PIUP	Variable pitch control signal. Pitch is increased 0.1% at every leading edge (F _s is increased 0.1% as compared with reference).
32	CTL2	Status data input control signal. Status data is shifted and input when CTL2 and CTL1 are high.
33	CTL1	Status data input control signal. Status data is shifted and input when CTL2 and CTL1 are high.
34	EXCK	Status data shift input clock. Status data is shifted and input at leading edge.

Pin No.	Symbol	Description
35	STAT	Status data serial input terminal.
36	SBSY	Status data load signal. Shifted status data is loaded into status register at the trailing edge.
37	SRVS	12.8kHz servo reference signal. (Can be changed at 12.8kHz $\pm 12\%$ in variable pitch mode.)
38	ADAE	AD/DA data is input or output from D0 through D7 when is high.
39	FLGC	Forcible error flag, erasure correction inhibit, and muting control signals are input during time sharing.
40	CKRS	Master clock reset signal. Reset when is high.
41	CLKI	Master clock (18.816MHz).
42	V _{ss}	GND.*
43	PREN	ECC data input/output request inhibit signal. Request is inhibited when is low.
44	RCPB	Controls whether ECC is encoded (in REC mode) or decoded (in PB mode). Encoded when is high.
45	PRGS	ECC process start signal. Started at the leading edge.
46	C1C2	Controls whether ECC process is related to C1 code or C2 code. C1 code is processed when is high.
47	A4	ECC data location A4 (MSB).
48	A3	ECC data location A3.
49	A2	ECC data location A2.
50	A1	ECC data location A1.
51	A0	ECC data location A0 (LSB).
52	PRGE	Inverted from high to low and vice versa whenever ECC data is processed every code.
53	PTRD	Indicates whether ECC data input and output is requested by error pointer or code data. Requested by error pointer when is high.
54	RW	Indicates whether ECC data input and output is requested by input (read from RAM) or output (write to RAM). Requested by input when is high.
55	XDOE	Controls whether signals at D0 through D7 should be output. Output when is low.
56	D ₇	External data bus terminal (MSB).
57	D ₆	External data bus terminal (2SB).
58	V _{DD}	Power supply (+5V).
59	D5	External data bus terminal (3SB).
60	D4	External data bus terminal (4SB).
61	D3	External data bus terminal (5SB).
62	D2	External data bus terminal (6SB).
63	D1	External data bus terminal (7SB).
64	D0	External data bus terminal (LSB).

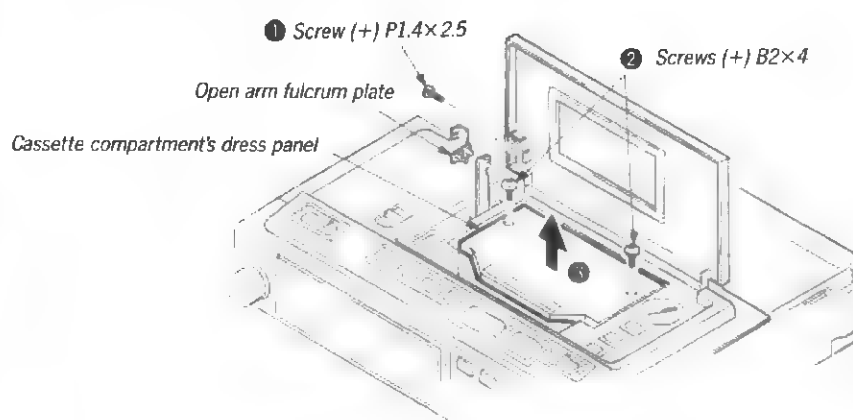
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

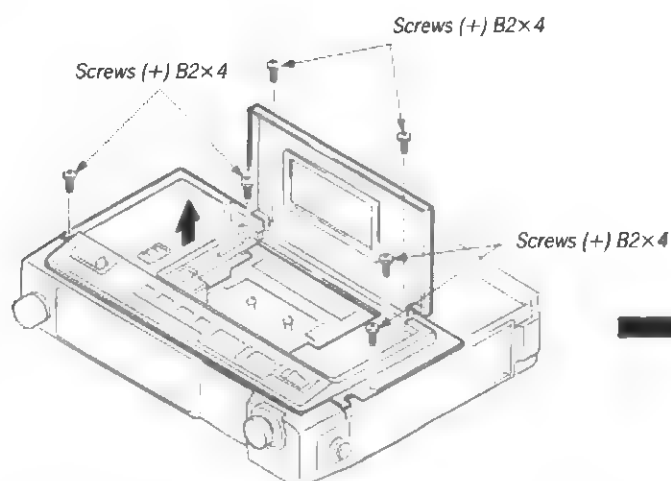
2-1. KNOB



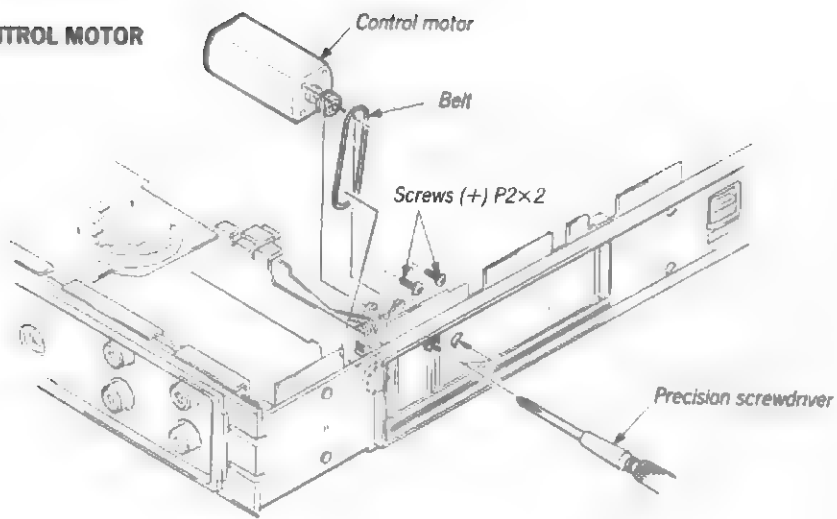
2-2. CASSETTE COMPARTMENT'S DRESS PANEL



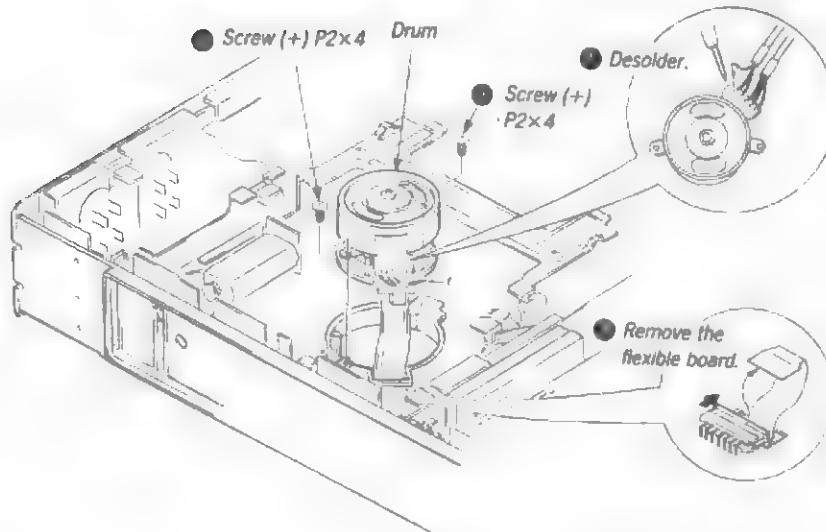
2-3. CABINET (UPPER)



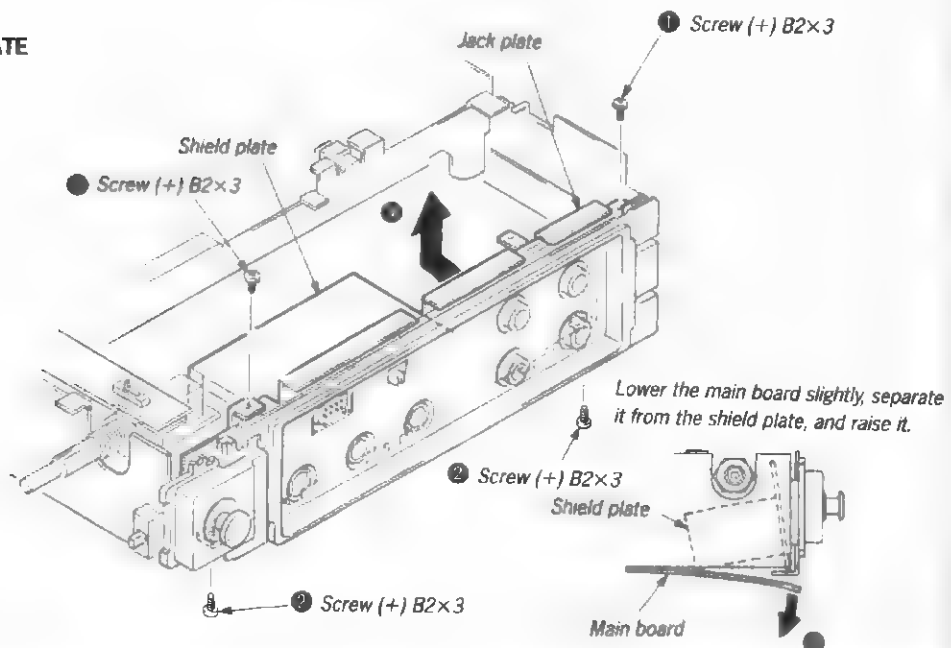
2.4. CONTROL MOTOR



2.5. DRUM

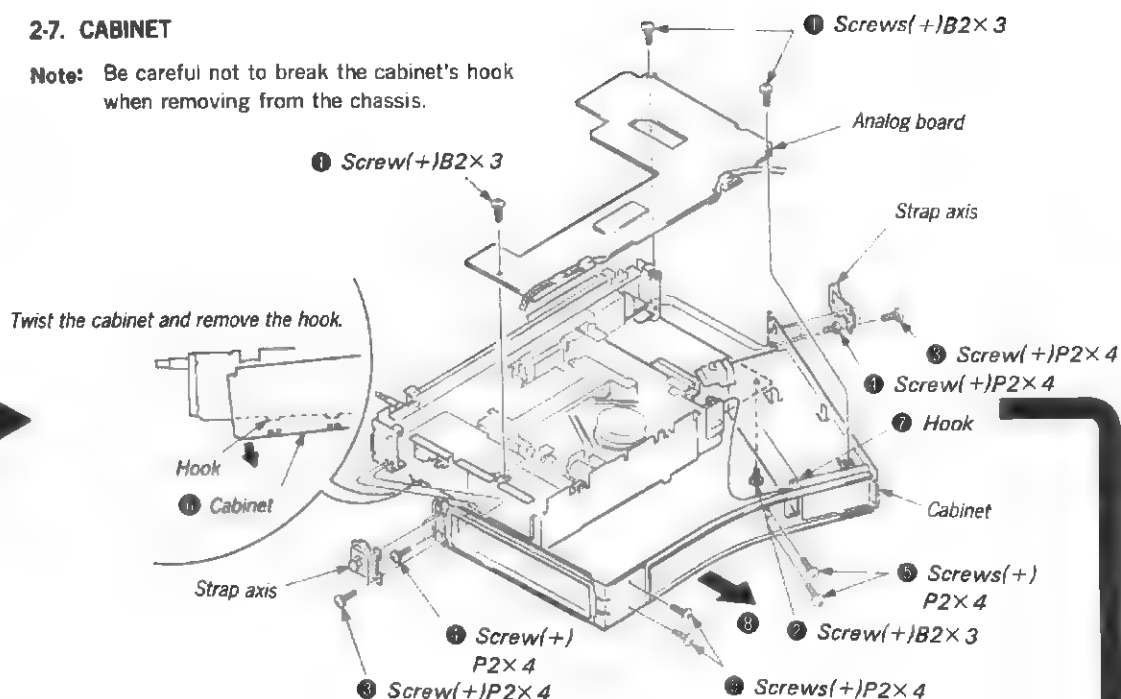


2.6. JACK PLATE



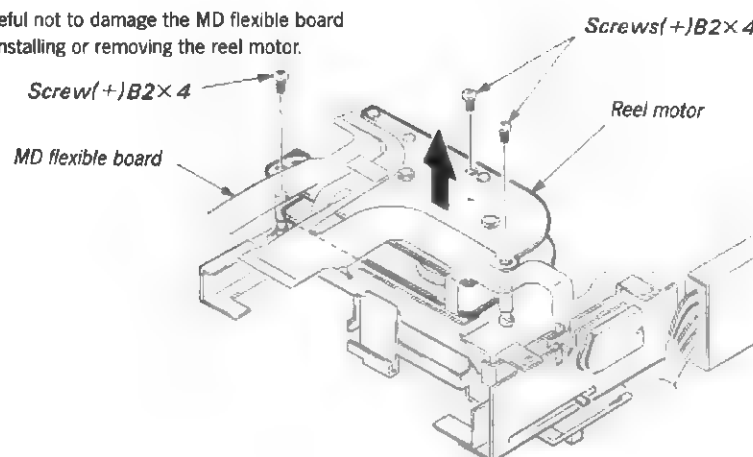
2-7. CABINET

Note: Be careful not to break the cabinet's hook when removing from the chassis.

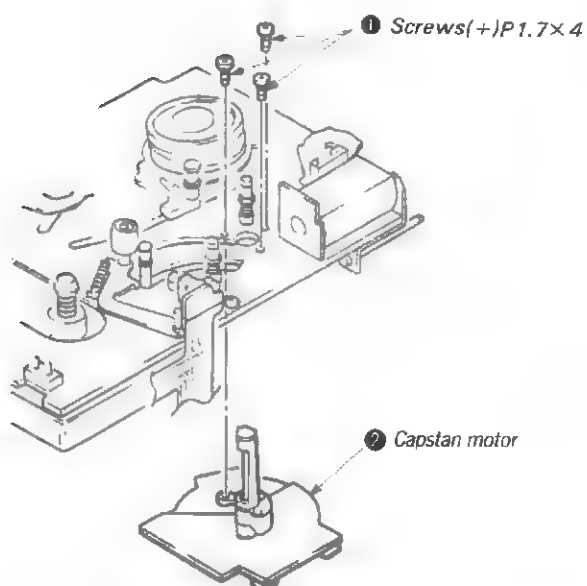


2-8. REEL MOTOR

Note: Be careful not to damage the MD flexible board when installing or removing the reel motor.



2-9. CAPSTAN MOTOR



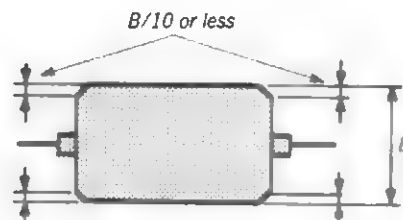
SECTION 3 MECHANICAL ADJUSTMENTS

Preparations

1. Perform the adjustment in the order described.
2. Use the following alignment tapes:
 TY-7111 (8-909-812-00): Level
 TY-7251 (8-909-813-00): Tracking
 TY-7551 (8-909-814-00): Function
 TY-30B (8-892-358-00): Blank
 Use the following torque meters:
 TW-7131 (8-909-708-71): FWD
 TW-7231B (8-909-708-76): FF/REW

※ Check that the DPG adjustment and tape path fine-adjustment satisfy the specification when replacing the drum unit. If not, adjust them.

For the tape path fine-adjustment, the RF signal waveform at TP521 should be as shown below.

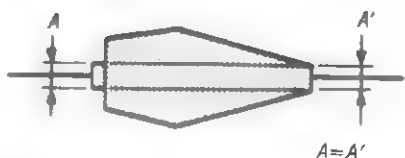


■ should exceed 250mV.

T2 Guide Adjustment

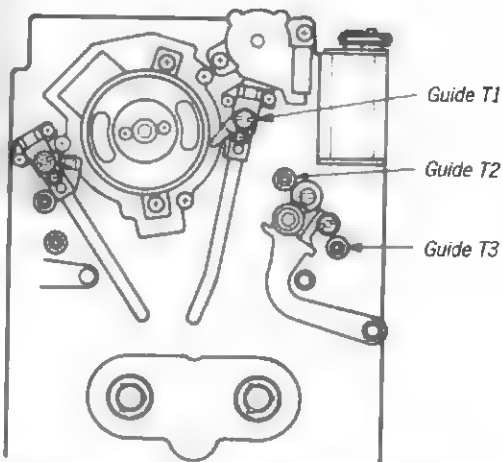
Adjustment:

1. Connect CH-1 of an oscilloscope to TP521 (RF) and CH-2 to TP501 (SWP).
2. Insert test tape TY-7251 and put the set into TEST mode 1.
Press the FF button (to enter the $\times 1.5$ mode).
3. Raise guide T1 so that the RF signal waveform is as shown below.



4. Raise guide T2 and align it with the lower edge of the tape.
5. Lower guide T1 so that the RF signal waveform is normal.
6. Check that the tape is aligned with the lower edge of guide T3.

Adjustment Point: Mechanism assembly



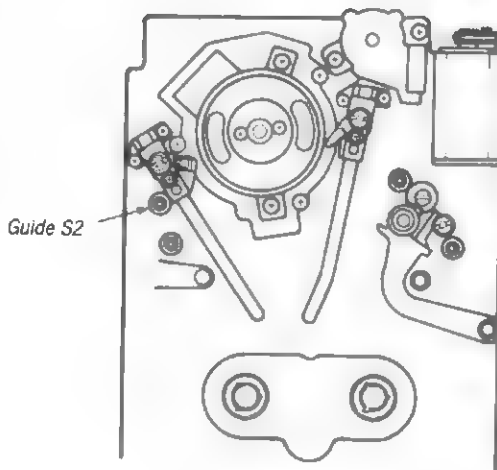
S2 Guide Adjustment

Adjustment:

1. Turn on the POWER switch, insert blank tape TY-30B, and put the set into the PLAY (▶) mode.
2. Raise guide S2 and align it with the lower edge of the tape.

Note: Check that no curl occurs at guide S2 in the REW (◀◀) mode.

Adjustment Point: Mechanism assembly

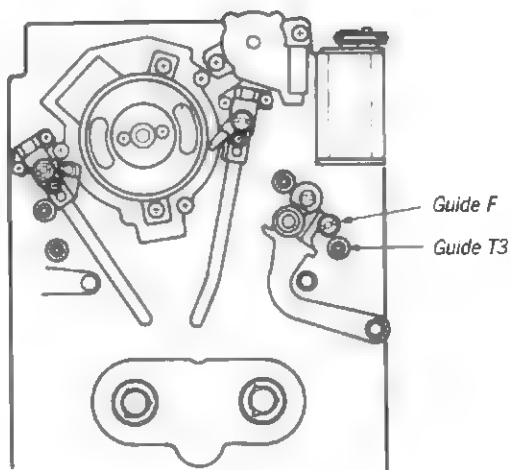


F Guide Adjustment**Adjustment:**

1. Turn on the POWER switch, insert blank tape TY-30B, and put the set into the PLAY (▶) mode.
2. Align guide F with the lower edge of the tape.

Note: Check that the tape is aligned with the lower edge of guide T3 and is not curled.

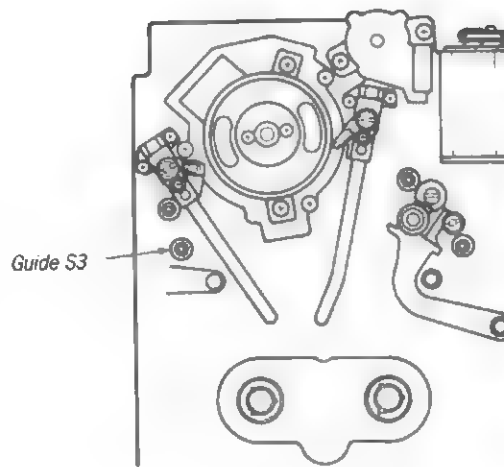
Adjustment: Mechanism assembly

**S3 Guide Adjustment****Adjustment:**

1. Turn on the POWER switch, insert blank tape TY-30B, and put the set into the PLAY (▶) mode.
2. Align guide S3 with the lower edge of the tape.

Note: Check that the tape is aligned with the lower edge of guide S3 and is not curled.

Adjustment: Mechanism assembly

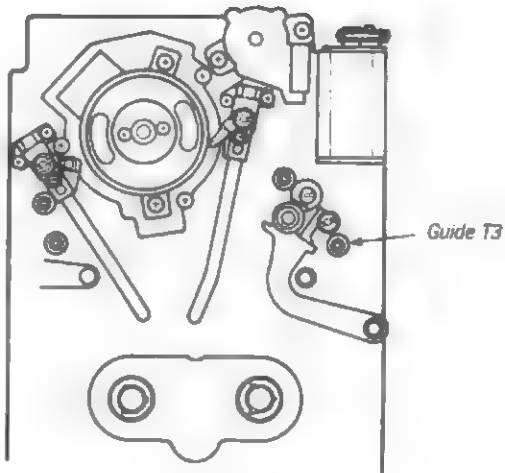


T3 Guide Adjustment**Adjustment:**

1. Turn on the POWER switch, insert blank tape TY-30B, and put the set into the PLAY (▶) mode.
2. Align guide T3 with the lower edge of the tape.

Note: Check that the tape is aligned with the lower edge of guide T3 and is not curled.

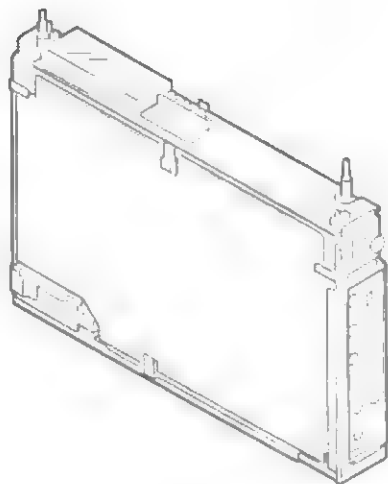
Adjustment Point: Mechanism assembly



SECTION 4 ELECTRICAL ADJUSTMENTS

FWD Back Tension Adjustment

The FWD back tension varies depending on the set's position. Be sure to adjust the set positioned as shown below.



Adjustment:

1. Put the set into TEST mode 2.
2. Insert FWD torque meter TW-7131 and put the set into the loading mode (press the COUNTER button).
3. Put the set into the PLAY mode and adjust RV502 so that the back tension (at supply side) satisfies the specification.

Specification: 4 to 5 g·cm

Adjustment Point: Main board



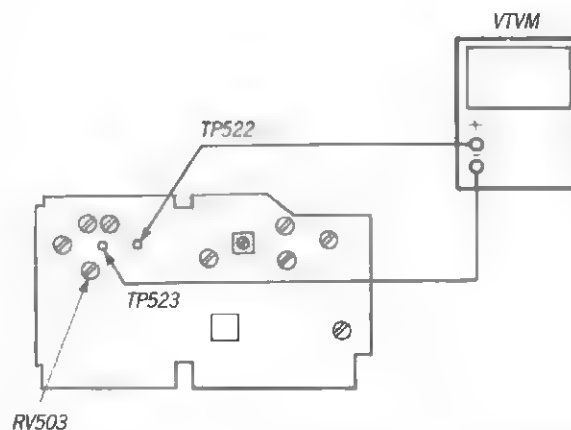
ATF Tracking Voltage Adjustment

Adjustment:

1. Put the set into TEST mode 2.
2. Insert test tape TY-30B (blank tape) and put the set into the loading mode (press the COUNTER button).
3. Put the set into the STOP mode and adjust RV503 so that the potential difference at TP522 and TP523 satisfies the specification.

Specification: -20 to 20mV

Adjustment Point: Main board



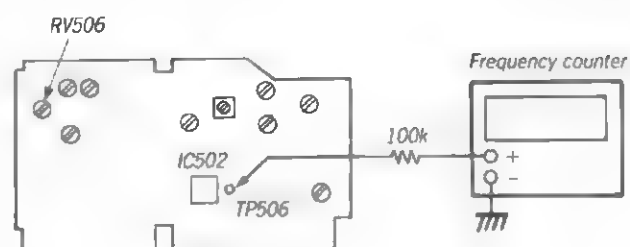
Capstan Speed Adjustment

Adjustment:

1. Put the set into TEST mode 2.
2. Insert test tape TY-30B (blank tape) and put the set into the loading mode (press the COUNTER button).
3. Put the set into the PLAY mode and adjust RV506 so that the frequency at TP506 satisfies the specification.

Specification: $674 \pm 1\text{Hz}$

Adjustment Point: Main board

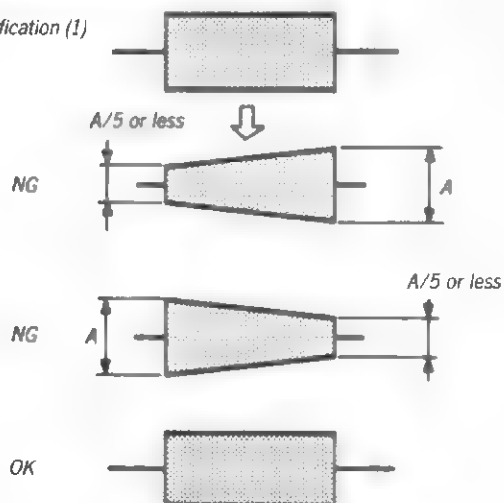


Tape Path Fine-Adjustment

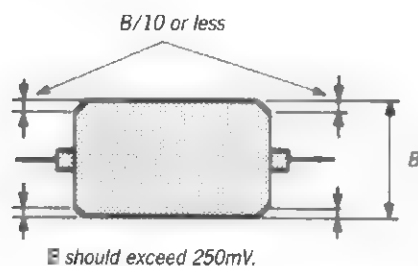
Adjustment:

1. Put the set into TEST mode 1 (turn off the POWER switch).
2. Open the pattern of RV503 (in portion (A) of the figure) and connect the ATF offset jig as shown in the figure.
3. Turn on the POWER switch, insert test tape TY-7251, and put the set into the loading mode (press the COUNTER button).
4. Press the FF button (to enter the $\times 1.5$ mode).
5. Turn the ATF offset jig volume control so that the RF signal waveform is maximized and stabilized. Adjust guides S1 and T1 so that the RF signal waveform is almost square.
6. Finely adjust S1 and T1 so that the RF signal waveform is smaller but the same shape when the offset jig volume control is turned. Check that specification (1) is satisfied.
(Adjust guide S1 and guide T1 for the left of the waveform and for the right of it.)
7. After adjustment is completed, remove the ATF offset jig, bridge the pattern of RV503, and check that the RF signal waveform satisfies specification (2). If the specification is not satisfied, repeat Steps 2 through 6.

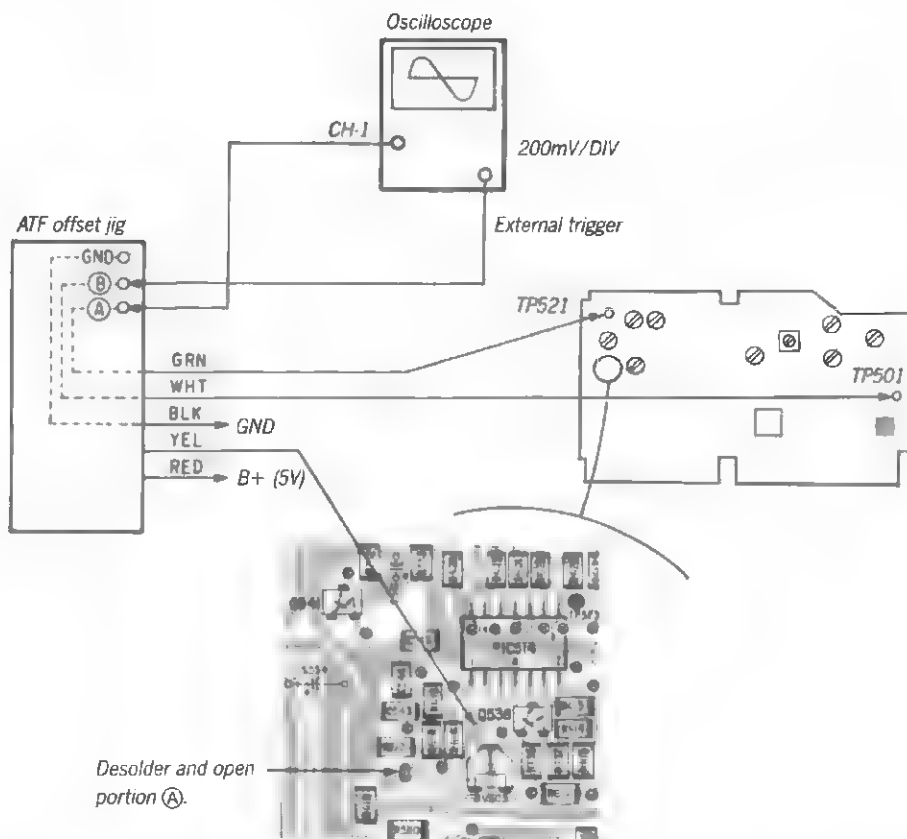
Specification (1)



Specification (2)



Adjustment Point: Main board

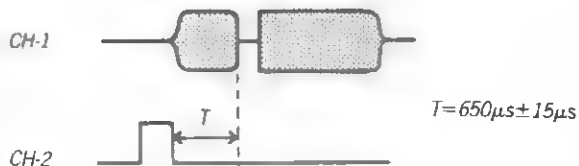


DPG Adjustment

Be sure to make this adjustment when replacing the drum unit.

Adjustment:

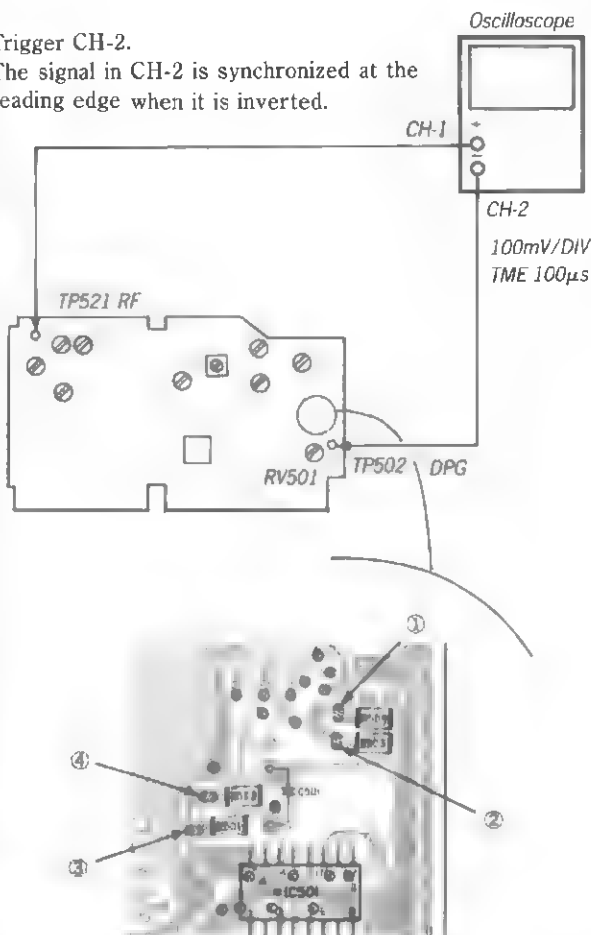
1. Put the set into TEST mode 1.
2. Insert test tape TY-7251 and put the set into the loading mode (press the COUNTER button).
3. Press the FF button (to enter the $\times 1.5$ mode).
4. Adjust RV501 so that the waveform on the oscilloscope satisfies the specification.
5. When adjustment cannot be completely made using ■ semi-fixed resistor, remove the taps in the order of ① through ④ until the specification is satisfied.

Specification:

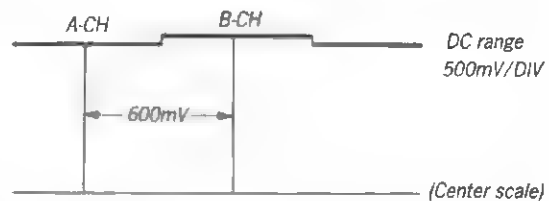
Adjustment Point: Main board

Trigger CH-2.

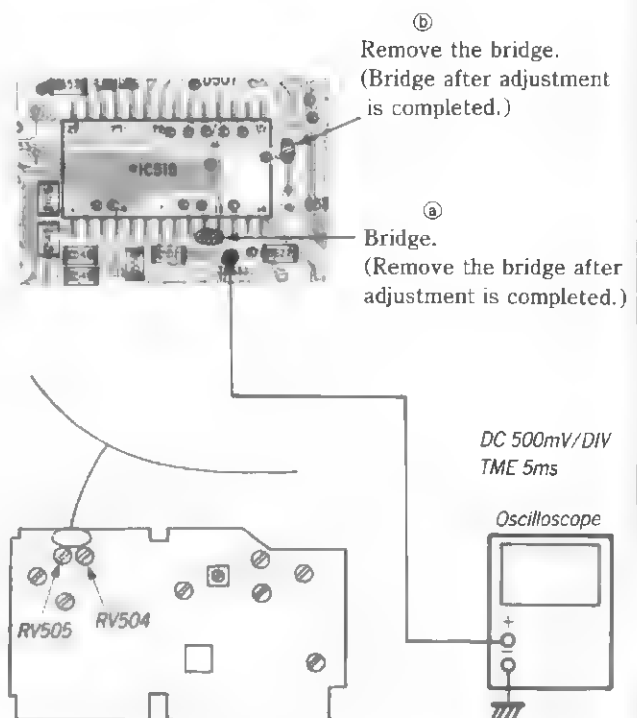
The signal in CH-2 is synchronized at the leading edge when it is inverted.

**ATF Pilot Adjustment****Adjustment:**

1. Put the set into TEST mode 2.
2. Insert test tape TY-7111 and put the set into the loading mode (press the COUNTER button).
3. Put the set into the STOP mode and adjust so that the luminescent spot on an oscilloscope at TP532 is located on the scale center.
(Never align the spot with the center when the input is to GND.)
4. Turn all POWER OFF and bridge pins ⑩ and ⑪ of IC515 (portion ③) or remove the bridge in portion ⑤.
5. Turn on the POWER and put the set into TEST mode 2. Change the mode from TEST 2 to PLAY and adjust RV504 (A-CH) and RV505 (B-CH) so that the waveform on the oscilloscope satisfies the specification.
(The waveform deflects vertically from the 600mV reference.)
6. After adjustment is completed by restor bridge of IC515.

Specification:

Adjustment Point: Main board

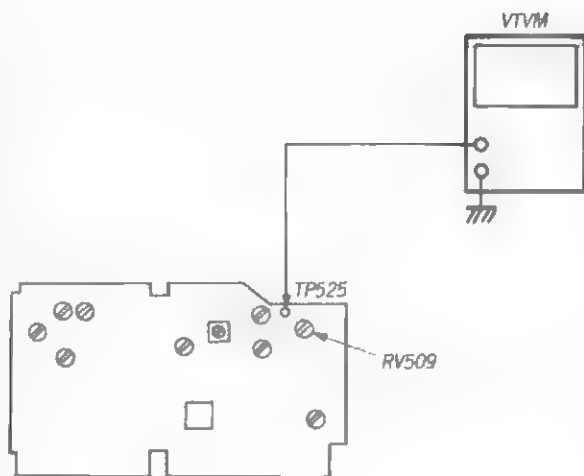


VCO Free-Run Voltage Adjustment**Adjustment:**

1. Put the set into TEST mode 2.
2. Insert test tape TY-30B (blank tape) and put the set into the loading mode (press the COUNTER button).
ton).
3. Adjust RV509 so that the voltage at TP525 satisfies the specification in the STOP mode.

Specification: -3.1 to -3.3 V

Adjustment Point: Main board



VCO Adjustment

Adjustment:

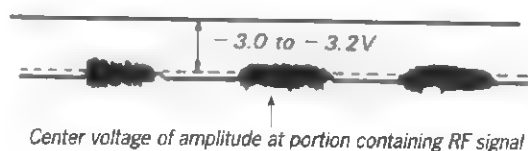
1. Put the set into TEST mode 2.
2. Insert a music tape and put the set into the loading mode (press the COUNTER button).
3. Open the RV710's tap (portion ① in the figure) and put the set into the PLAY mode.
4. Adjust RV507 so that the waveform at TP526 is as shown below.



5. Adjust RV508 so that the waveform at TP526 is as shown below.



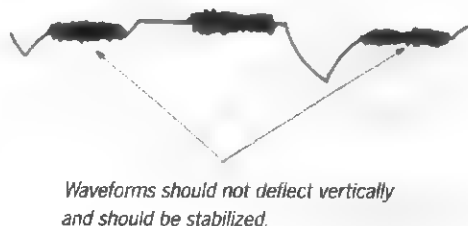
6. Put the set into CUE ($\times 2.5$) and REVIEW ($-\times 2.5$) modes and finely adjust RV507 so that the waveform at TP526 is the same as that in Step 4.
7. Put the set into the STOP mode and turn off all POWER.
8. Bridge the RV710's tap and turn on the POWER.
9. Put the set into the PLAY mode and adjust L502 so that the DC potential (containing an RF signal) at TP526 satisfies the specification.



10. Put the set into the CUE ($\times 2.5$) mode and adjust RV509 so that the waveform at TP526 satisfies the specification.

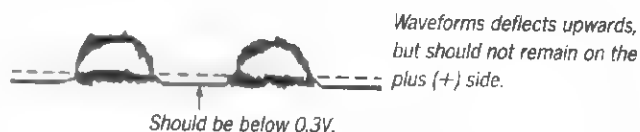


11. Put the set into the CUE ($\times 16$) and REVIEW ($-\times 16$) modes. Adjust RV507 so that the waveform at TP526 satisfies the specification.

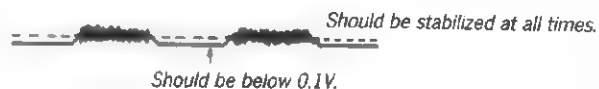


To enter the CUE ($\times 16$) and REVIEW ($-\times 16$) modes, press the PLAY button while pressing the FF or REW button in the PLAY mode.

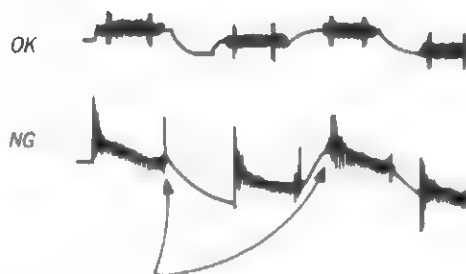
12. Put the set into the REVIEW ($-\times 2.5$) mode and check the waveform at TP526.



13. Put the set into the PLAY mode and check the waveform at TP526.



14. Put the set into FF-AMS mode and check the waveform at TP526.

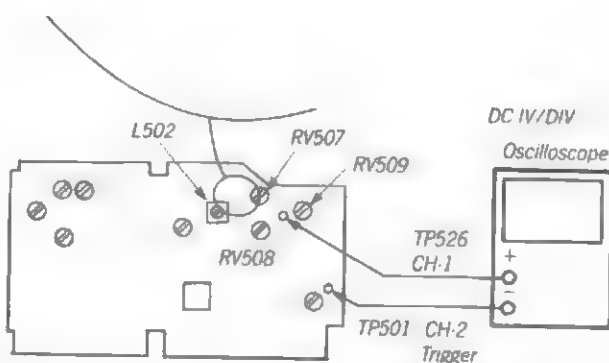
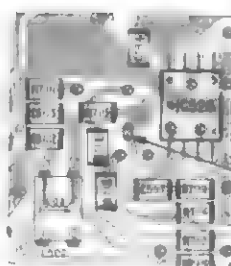


Voltage deflects to the plus (+) side.

15. Put the set into the STOP mode then the REW-AMS mode and check that the same waveform as in Step 14 is output.

16. If the waveforms in Steps 14 and 15 are NG, readjust RV507 and recheck Steps 11 through 15.

Adjustment Point: Main board



Playback Equalizer Adjustment

(Check that all adjustments prior to this adjustment are normal before making the Playback Equalizer Adjustment.)

Condition: Error rate counter setting

Mode PCM-C1

Sampling Fast

Input Front

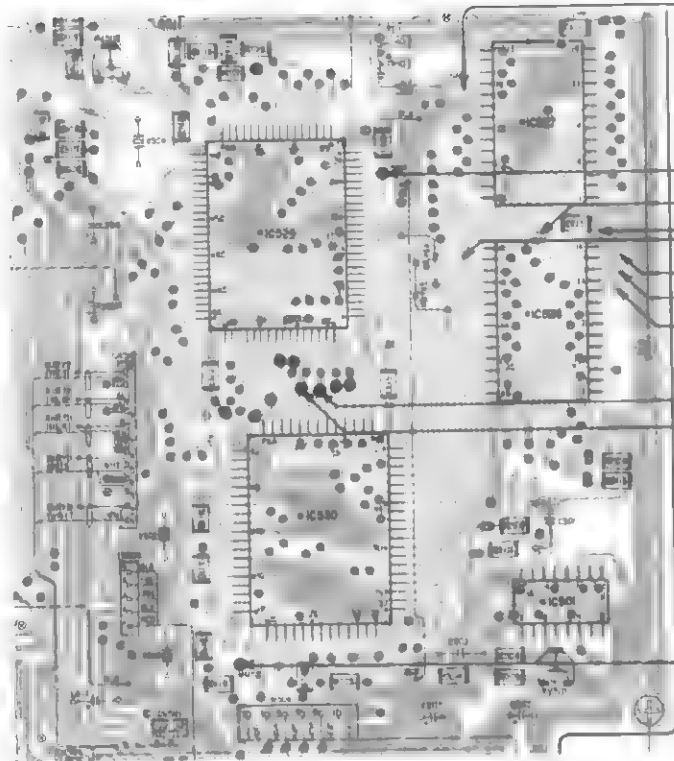
Adjustment:

1. Insert test tape TY-7551 and put the set into the loading mode.
2. Put the set into the PLAY mode and measure the error rate.
3. Adjust RV1 and RV2 if the error rate does not satisfy the specification.

Specification: 5×10^{-2} or less

Error rate counter: Connected to main board.

Error rate counter



WHT⑨

BRN①

GRN②

BRN③

GRY④

YEL⑤

ORG⑥

RED⑦

VIO⑧

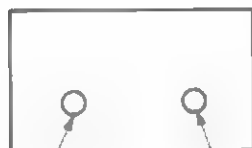
BLU⑩

BLK⑪

When there is no error rate counter, adjust as follows:

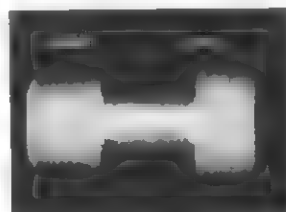
1. Insert test tape TY-7551 and put the set into the loading mode.
2. Adjust RV1 and RV2 so that the noise level of the waveform (containing no RF signal) at TP521 is between the maximum and minimum.

Adjustment Point: RF board

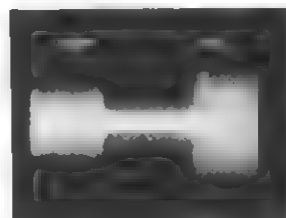


RV1
A-CH

RV2
B-CH



Noise is maximized.



Noise is minimized.

MIC Amplifier Offset Adjustment

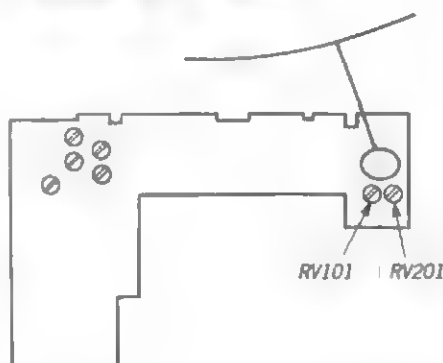
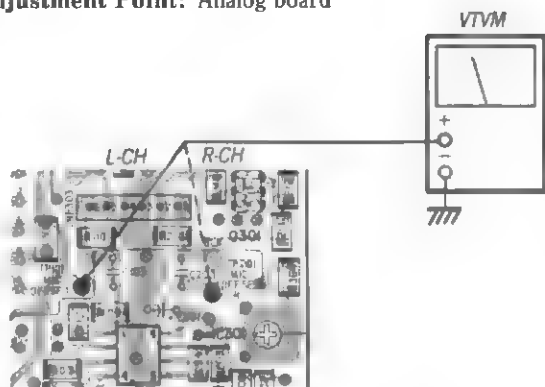
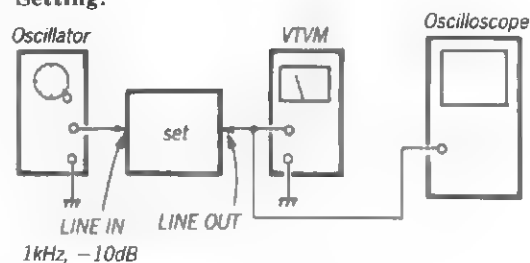
Condition: REC LEVEL .. MIN
VOLUME MIN

Adjustment:

1. Insert test tape TY-30B (blank tape) and put the set into the loading mode.
2. Press the REC button, put the set into the REC monitor mode, and terminate the MIC input in 300 ohms.
3. Set the MIC ATT to 0dB and adjust RV101 and RV201 so that the voltage at TP101 (L-CH) and TP201 (R-CH) is 0V.

Specification: -10 to 10mV

Adjustment Point: Analog board

**AD Level Adjustment****Setting:**

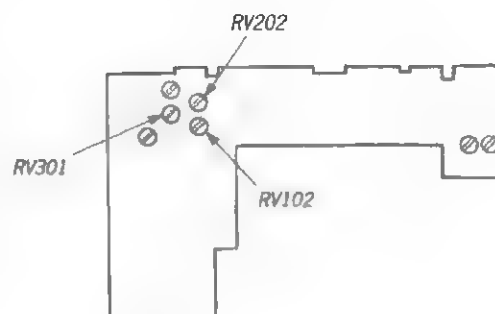
Condition: REC LEVEL .. MAX
VOLUME MIN

Adjustment:

1. Insert test tape TY-30B (blank tape) and put the set into the loading mode.
2. Set the REC LEVEL control to MAX and supply a 1kHz signal (-10dB) to the LINE IN connector in channels L and R to enter the REC mode.
3. Adjust RV301 so that the L-CH LINE OUT level satisfies the specification.
4. Adjust RV102 so that no distortion occurs in the waveform.
5. Adjust RV202 so that no distortion occurs in the R-CH LINE OUT waveform. Check the waveform level.
6. When the R-CH level exceeds 7.3dB, readjust RV301 so that the L-CH level is 6.5dB. Next, adjust the waveform using RV102 and RV202.

Specification: 7.0 to 7.2dB

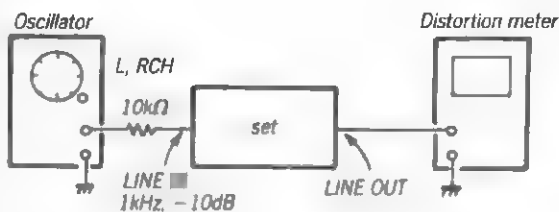
Adjustment Point: Analog board



AD Distortion Factor Adjustment

Condition: REC LEVEL MAX
VOLUME MIN
20kHz LPF ON

Setting:

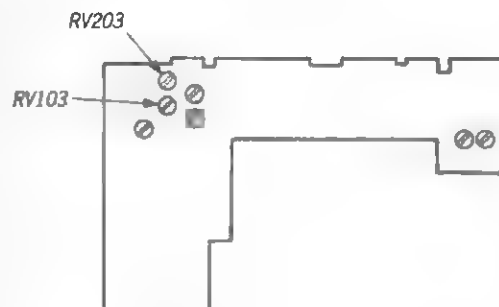


Adjustment:

1. Insert test tape TY-30B (blank tape) and put the set into the loading mode.
2. Set the REC LEVEL control to MAX and supply a 1kHz signal (-10dB) to the LINE IN connector in channels L and R to enter the REC mode.
3. Terminate the R-CH LINE IN connector in 10k ohms for L-CH, and the L-CH LINE IN connector in 10k ohms for R-CH.
4. Turn RV103 and RV203 counterclockwise so that the LINE OUT distortion factor is minimized.

Specification: 0.008% or less

Adjustment Point: Analog board

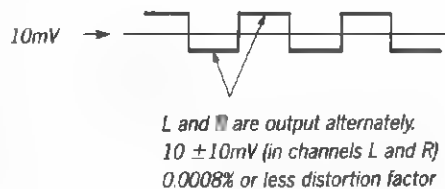


AD Offset Adjustment

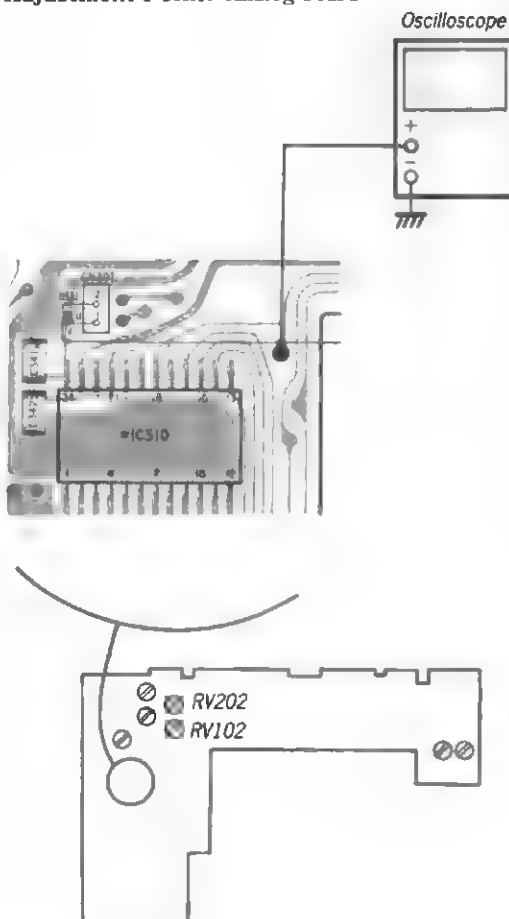
Adjustment:

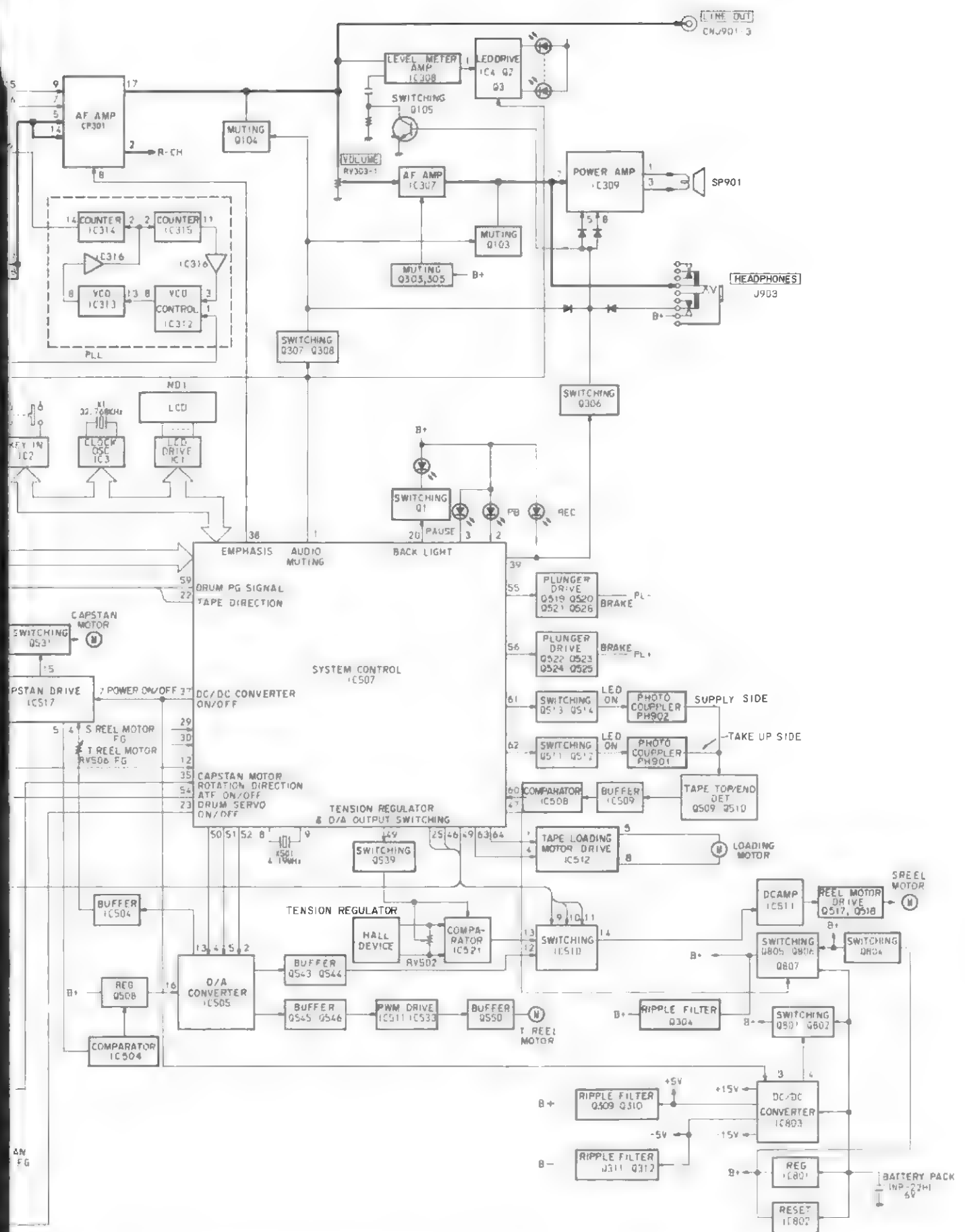
1. Insert test tape TY-30B (blank tape) and put the set into the loading mode.
2. Set the REC LEVEL control to MIN and put the set into the REC mode.
3. Terminate the LINE IN connector in both channels in 10k ohms.
4. Adjust RV102 and RV202 so that the output at pin 17 of IC310 satisfies the specification.
5. Measure the distortion factor in the same manner as in the AD Distortion Factor Adjustment.
6. Repeat the AD Distortion Factor Adjustment if the specification is not satisfied.

Specification:

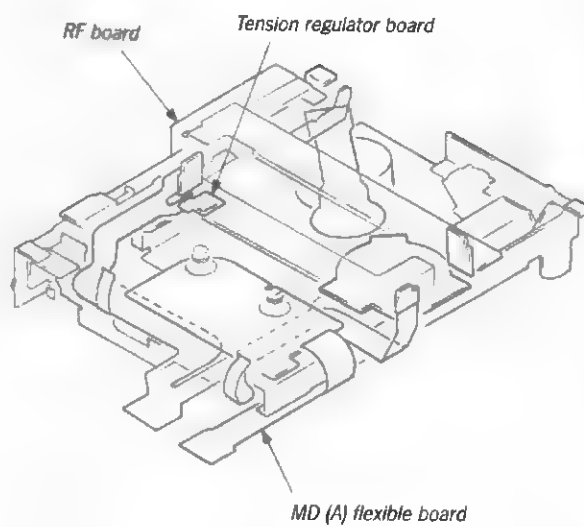
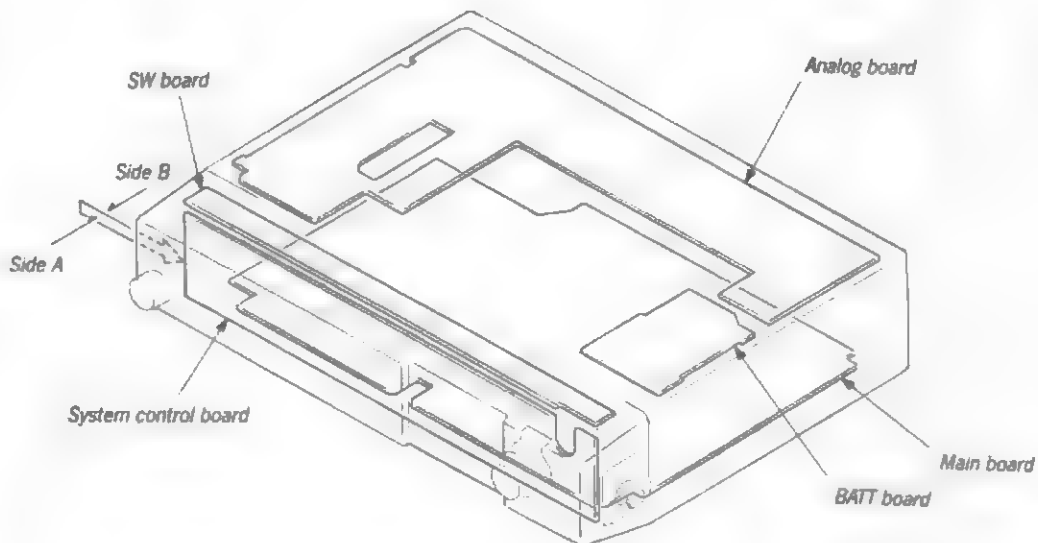


Adjustment Point: Analog board



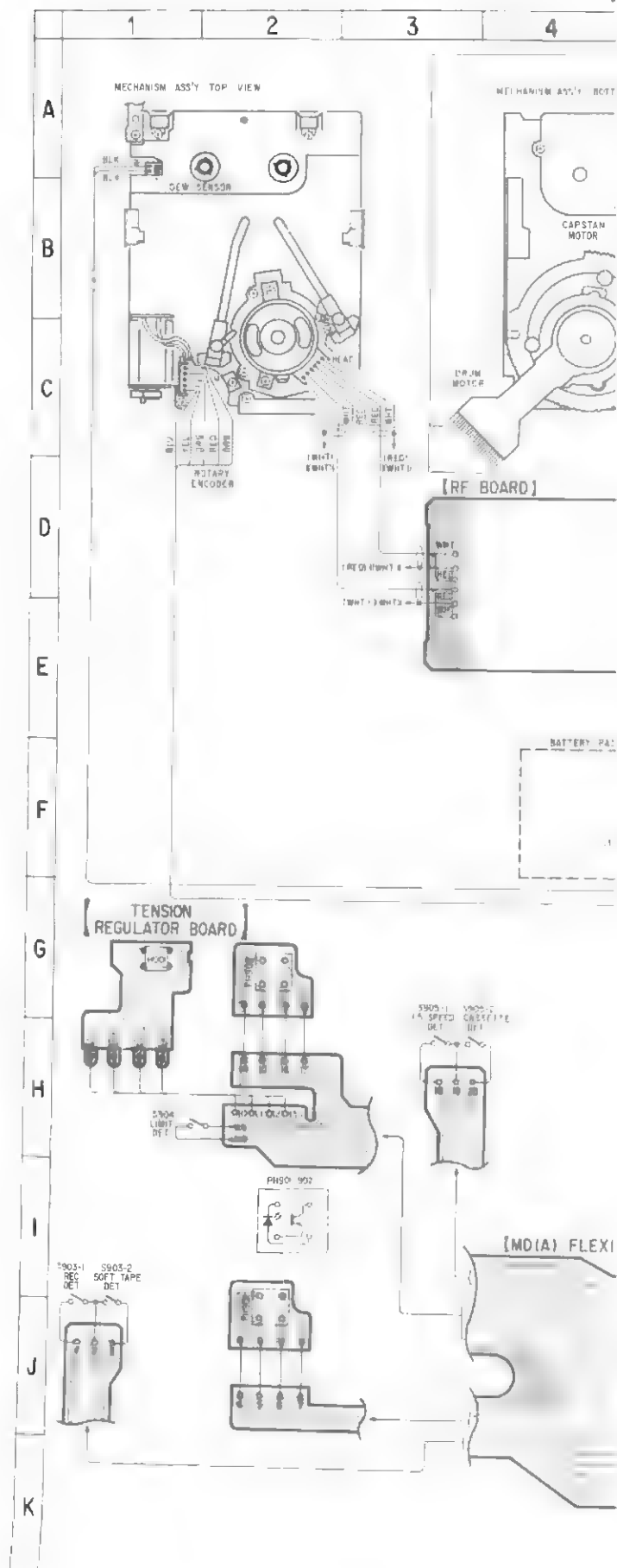


5-2. CIRCUIT BOARDS LOCATION



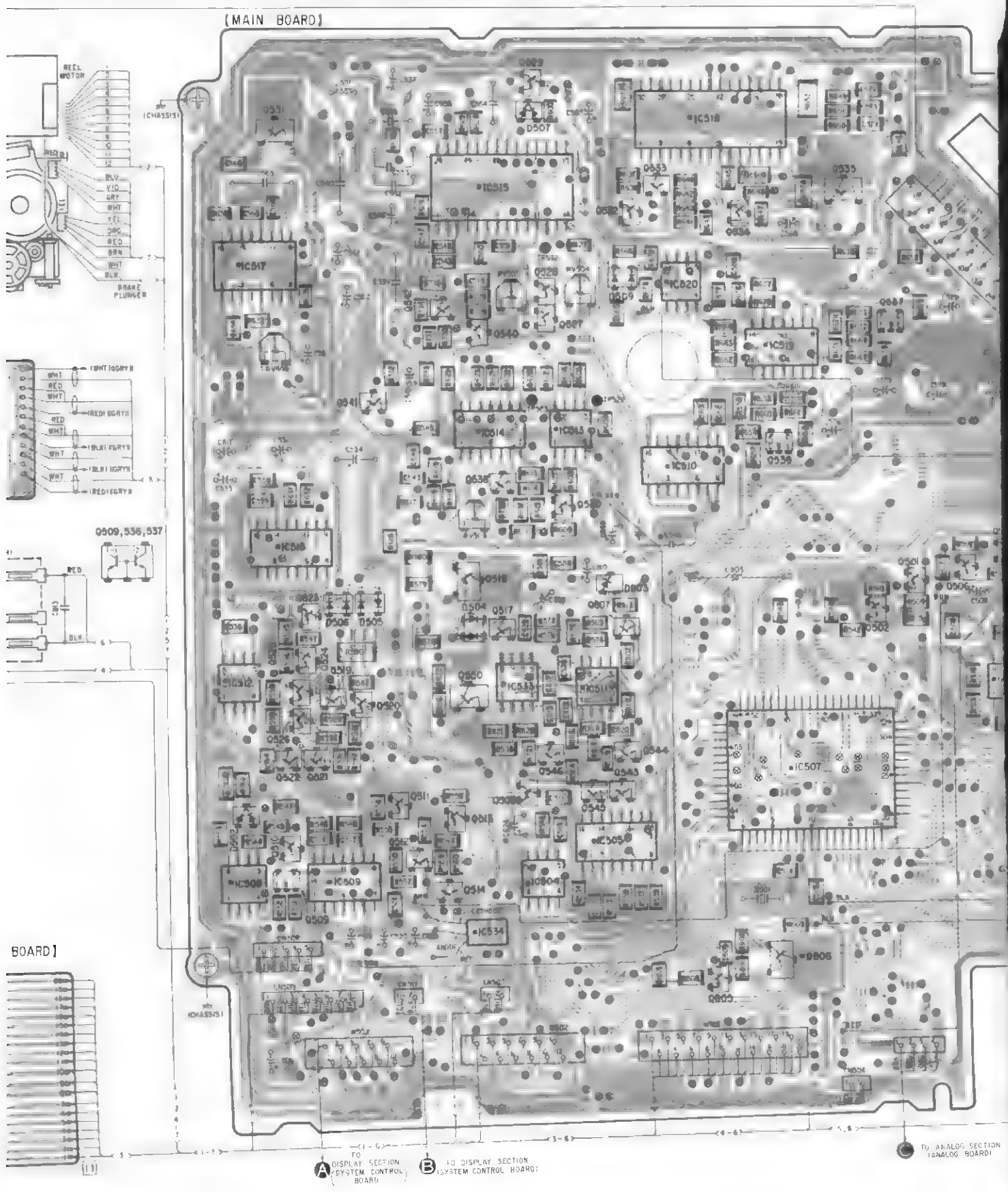
● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D502	H-7	Q501	F-13
D504	F-9	Q502	F-13
D505	F-8	Q503	F-15
D506	F-8	Q504	F-14
D507	B-10	Q505	E-14
D509	C-10	Q506	F-13
D510	B-15	Q508	H-9
D511	D-18	Q509	I-8
D512	C-16	Q510	H-7
D513	D-16	Q511	H-9
D801	J-16	Q512	H-8
D803	F-10	Q513	H-9
		Q514	I-9
IC501	H-21	Q517	F-9
IC502	G-15	Q518	F-9
IC503	G-14	Q519	G-8
IC504	I-10	Q520	G-8
IC505	H-10	Q521	H-8
IC506	I-15	Q522	H-7
IC507	H-12	Q523	F-8
IC508	I-7	Q524	G-8
IC509	I-8	Q525	F-7
IC510	E-11	Q526	G-7
IC511	G-10	Q527	C-10
IC512	G-7	Q528	C-10
IC513	D-10	Q529	A-10
IC514	D-9	Q530	E-10
IC515	B-9	Q531	B-7
IC516	E-7	Q532	B-10
IC517	C-7	Q533	B-11
IC518	B-11	Q534	C-11
IC519	D-12	Q535	B-12
IC520	C-11	Q536	E-12
IC521	C-15	Q537	C-13
IC522	B-15	Q538	E-9
IC523	C-21	Q539	D-15
IC524	C-20	Q540	D-9
IC525	C-18	Q541	D-8
IC526	C-17	Q542	C-8
IC527	E-21	Q543	H-10
IC528	F-21	Q544	G-11
IC529	E-19	Q545	H-10
IC530	H-19	Q546	H-10
IC531	C-19	Q550	G-9
IC533	G-9	Q801	I-16
IC534	I-9	Q802	J-17
IC801	E-15	Q804	J-16
IC802	E-15	Q805	J-11
IC803	J-19	Q806	I-12
		Q807	F-10
PH901	J-2		
PH902	G-2		

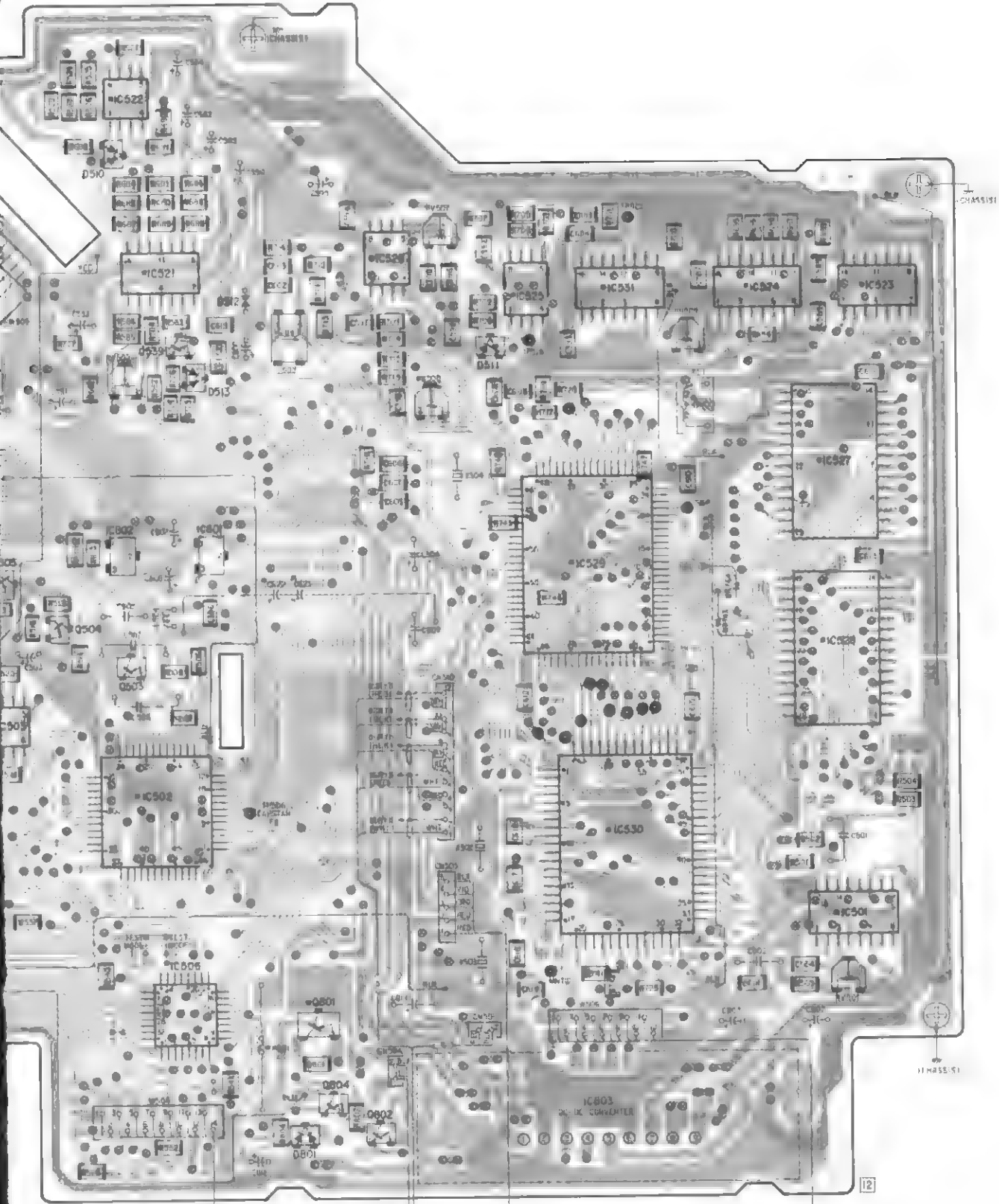


to page 33 for Circuit Boards Location.
to page 40 for Note.
to page 54 for Semiconductor Lead Layouts.

5	6	7	8	9	10	11	12	13
---	---	---	---	---	----	----	----	----

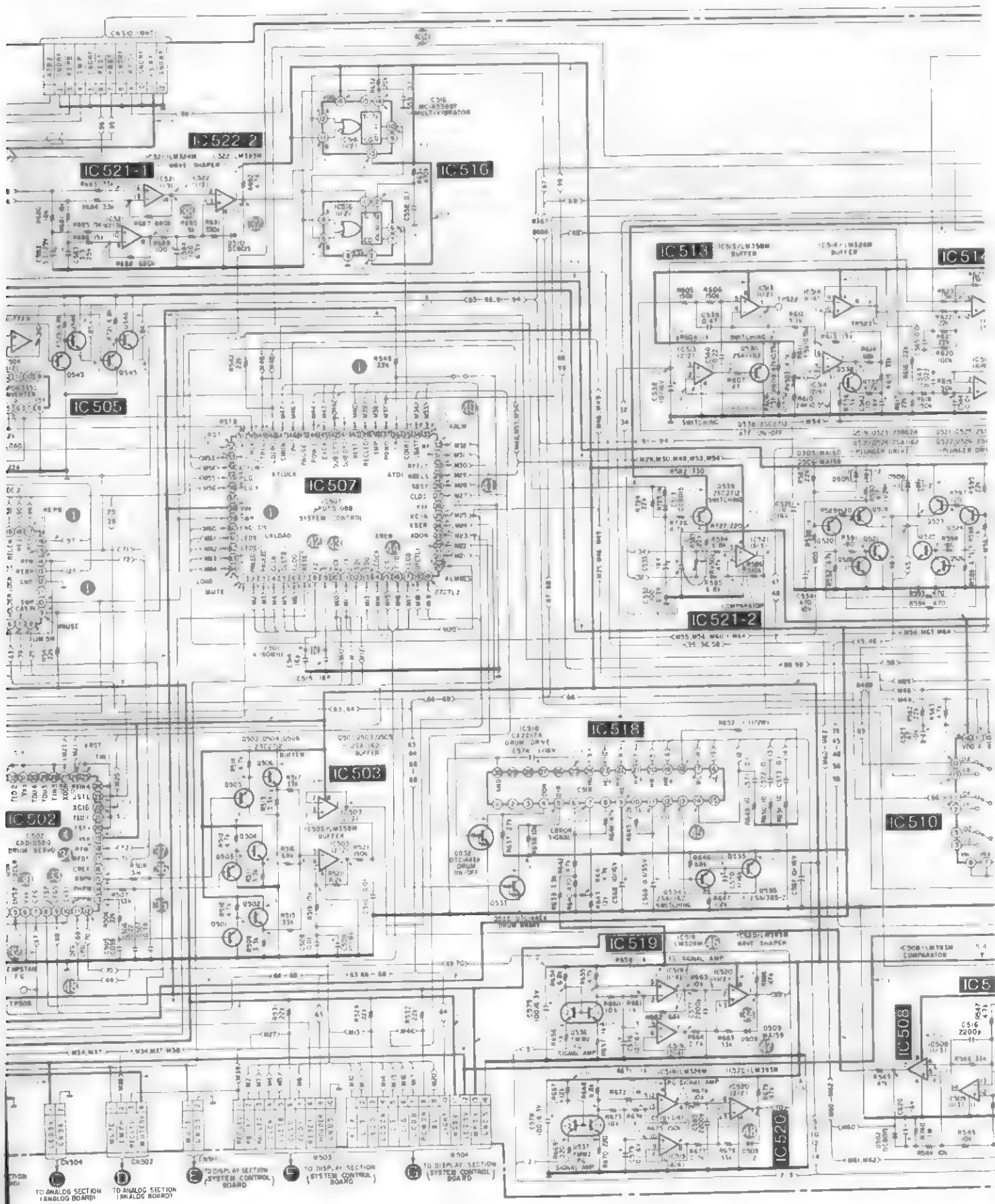


14	15	16	17	18	19	20	21	22
----	----	----	----	----	----	----	----	----



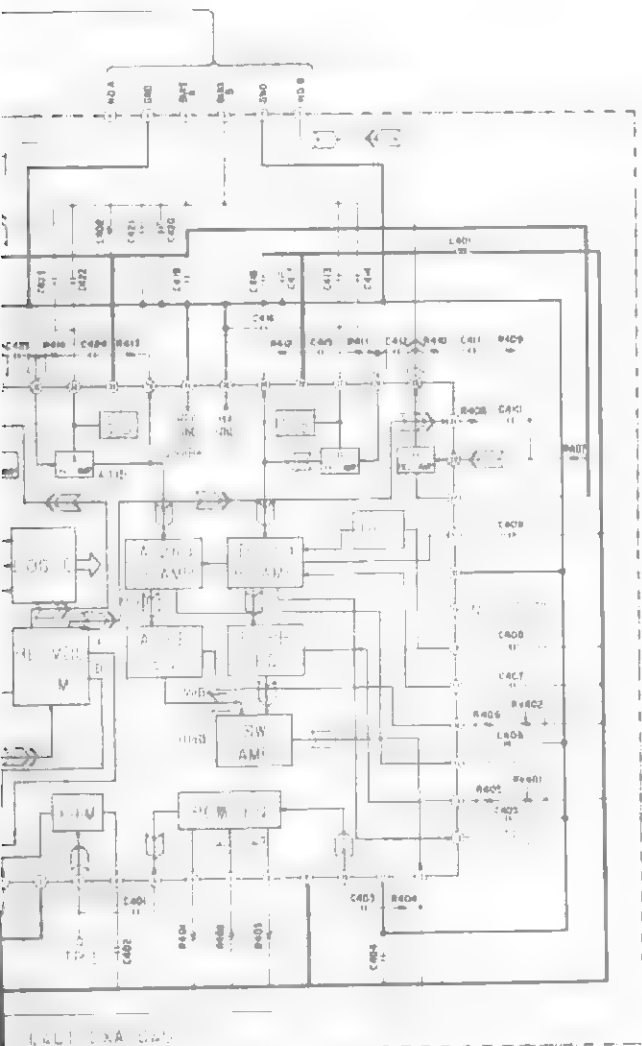
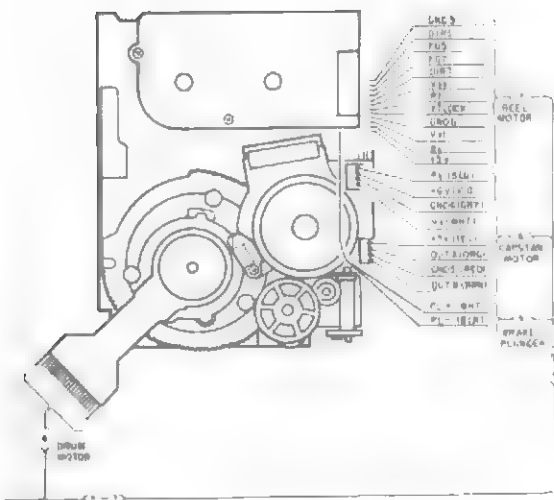
1 TO DISPLAY SECTION (SYSTEM CONTROL BOARD) 2 TO ANALOG SECTION (ANALOG BOARD) 3 TO ANALOG SECTION (ANALOG BOARD) 4 TO ANALOG SECTION (ANALOG BOARD)









MECHANISM ASSY BOTTOM VIEW



Note on Schematic Diagram:

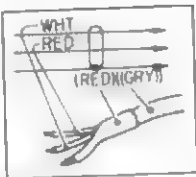
- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- % $\frac{1}{2}$ indicates tolerance.
- — : B+ Line
- - - - : B- Line
- [] : adjustment for repair
- Power voltage is dc 6.3V and fed with regulated dc power supply from external power voltage jack
- Voltage and waveforms are cassette tape to insert with respect to ground under no-signal conditions
no mark: STOP mode
(): REC mode
- Voltages are taken with a VOM (50 k Ω /V)
Voltage variations may be noted due to normal production tolerances
- Waveforms are taken with a oscilloscope
Voltage variations may be noted due to normal production tolerances
- Circled numbers refer to waveforms
- Signal path
Σ : PB
ΣΣ : REC
- Switch

Ref. No.	Switch	Position
S903	REC DET /SOFT TAPE DET	OFF
S904	LIMIT DET	OFF
S905	1.5 SPEED DET /CASSETTE DET	OFF

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

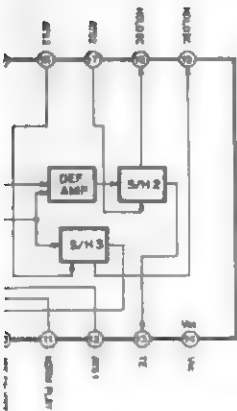
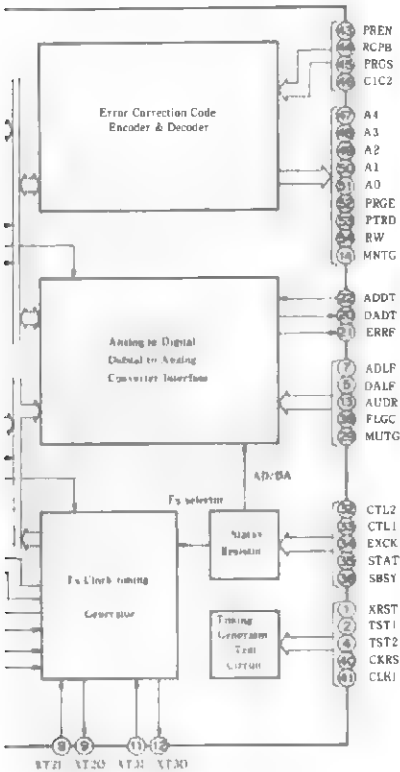
Note on Mounting Diagram:

- Color code or sleeving over the end of the jacket.



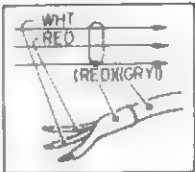
- ○ : parts extracted from the component side.
- ● : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ⊗ : Through hole.
- [] : Pattern on the side which is seen.
- [] : Pattern of the rear side

2XD1008Q



Note on Mounting Diagram:

- Color code or sleeving over the end of the jacket.



- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : parts mounted on the conductor side.
- ⊗ : Through hole.
- ▨ : Pattern on the side which is seen.
- ⬤ : Pattern of the rear side.
- : Chip components extracted from the rear side.

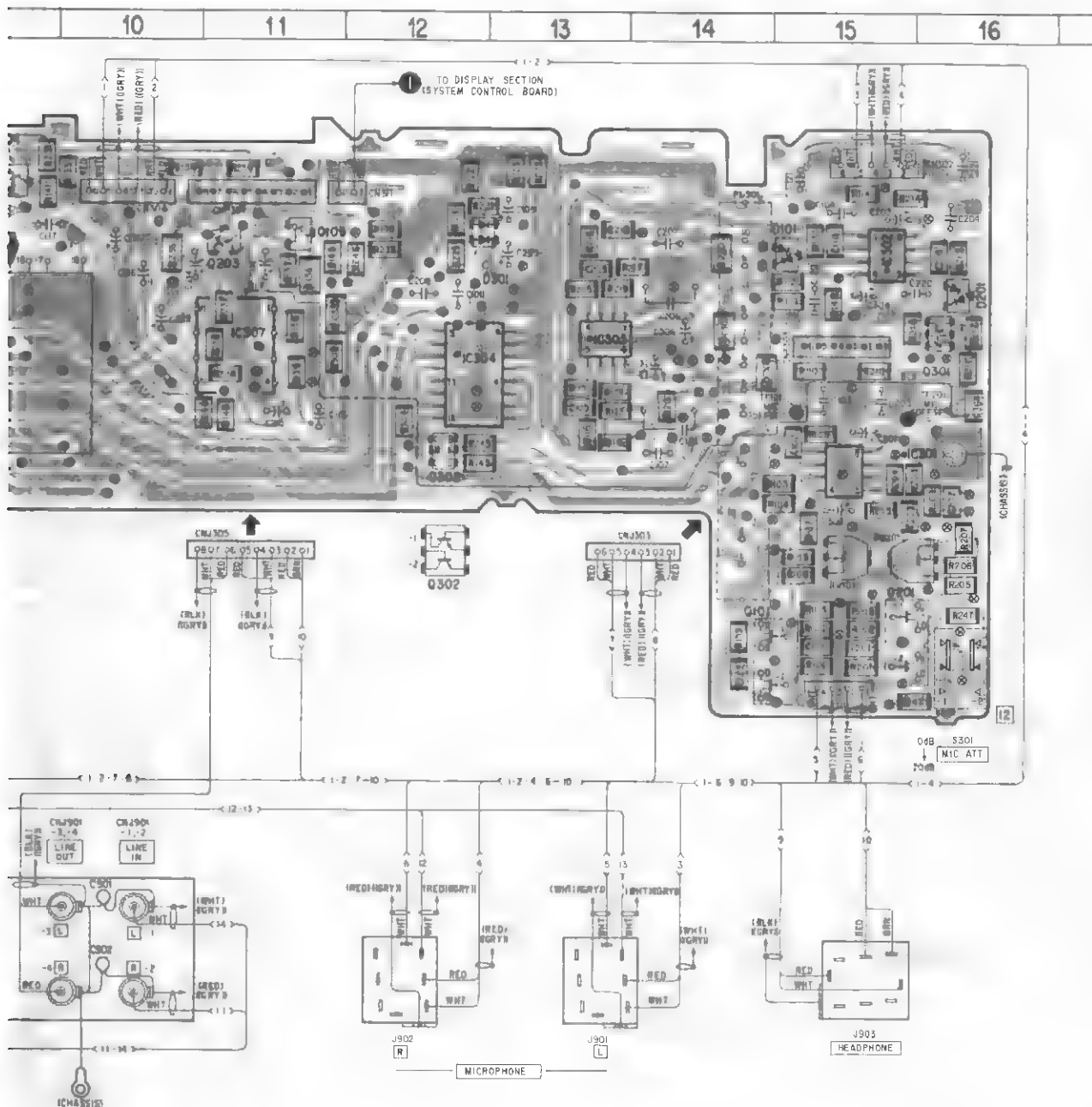
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.
- — : B+ Line
- - - - : B- Line
- □ : adjustment for repair
- Power voltage is dc 6.3V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are cassette tape to insert with respect to ground under no-signal conditions.
() : STOP mode
() : REC mode
- Voltages are taken with a VOM (50 $\text{k}\Omega/\text{V}$).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path
Σ : PB
ΣΣ : REC
- Switch

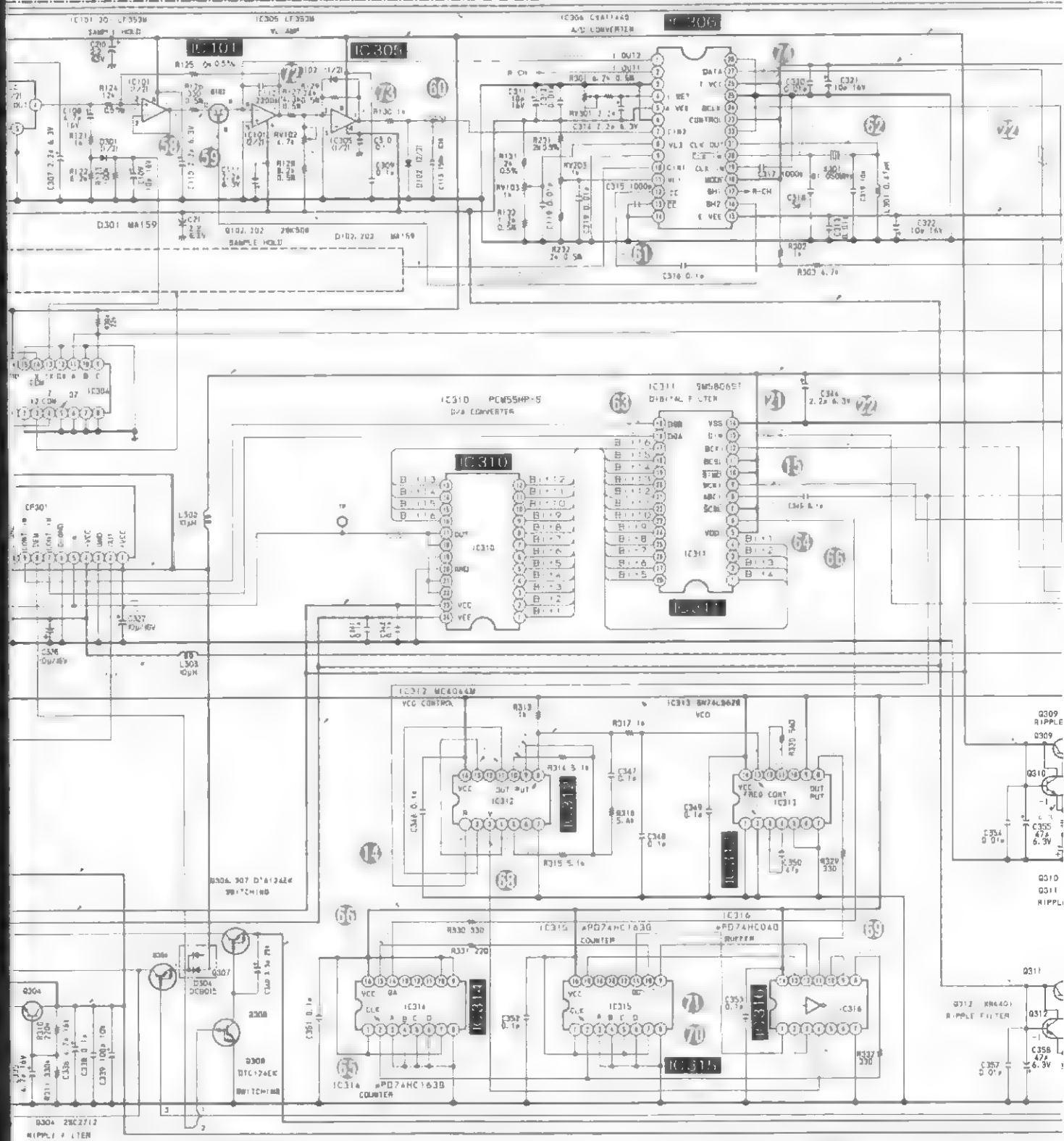
Ref. No.	Switch	Position
S301	MIC ATT	0dB

● Semiconductor Location

Ref. No.	Location
D101	B-15
D102	C-3
D201	B-16
D202	B-4
D301	B-13
D302	A-9
D303	H-4
D304	B-9
IC101	C-5
IC201	B-5
IC301	C-16
IC302	B-15
IC303	C-13
IC304	C-12
IC305	C-4
IC306	C-2
IC307	C-11
IC308	C-6
IC309	I-4
IC310	F-2
IC311	G-2
IC312	H-3
IC313	I-3
IC314	H-2
IC315	I-2
IC316	I-2
Q101	E-14
Q102	D-5
Q103	B-11
Q104	A-9
Q105	C-6
Q201	D-15
Q202	B-5
Q203	B-11
Q204	A-6
Q205	B-6
Q301	C-16
Q302	D-12
Q303	D-5
Q304	E-5
Q305	E-5
Q306	B-8
Q307	A-8
Q308	B-8
Q309	H-4
Q310	G-4
Q311	F-5
Q312	G-4

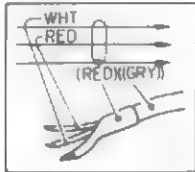






Note on Mounting Diagram:

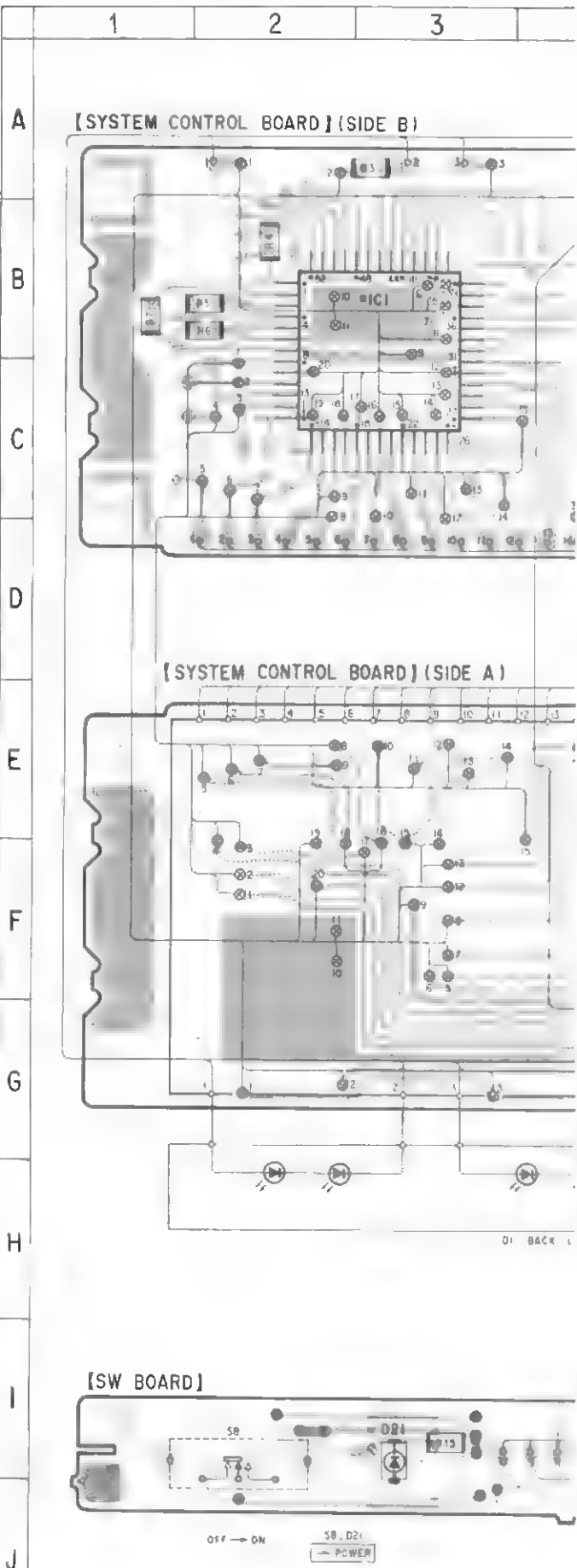
- Color code or sleeving over the end of the jacket.



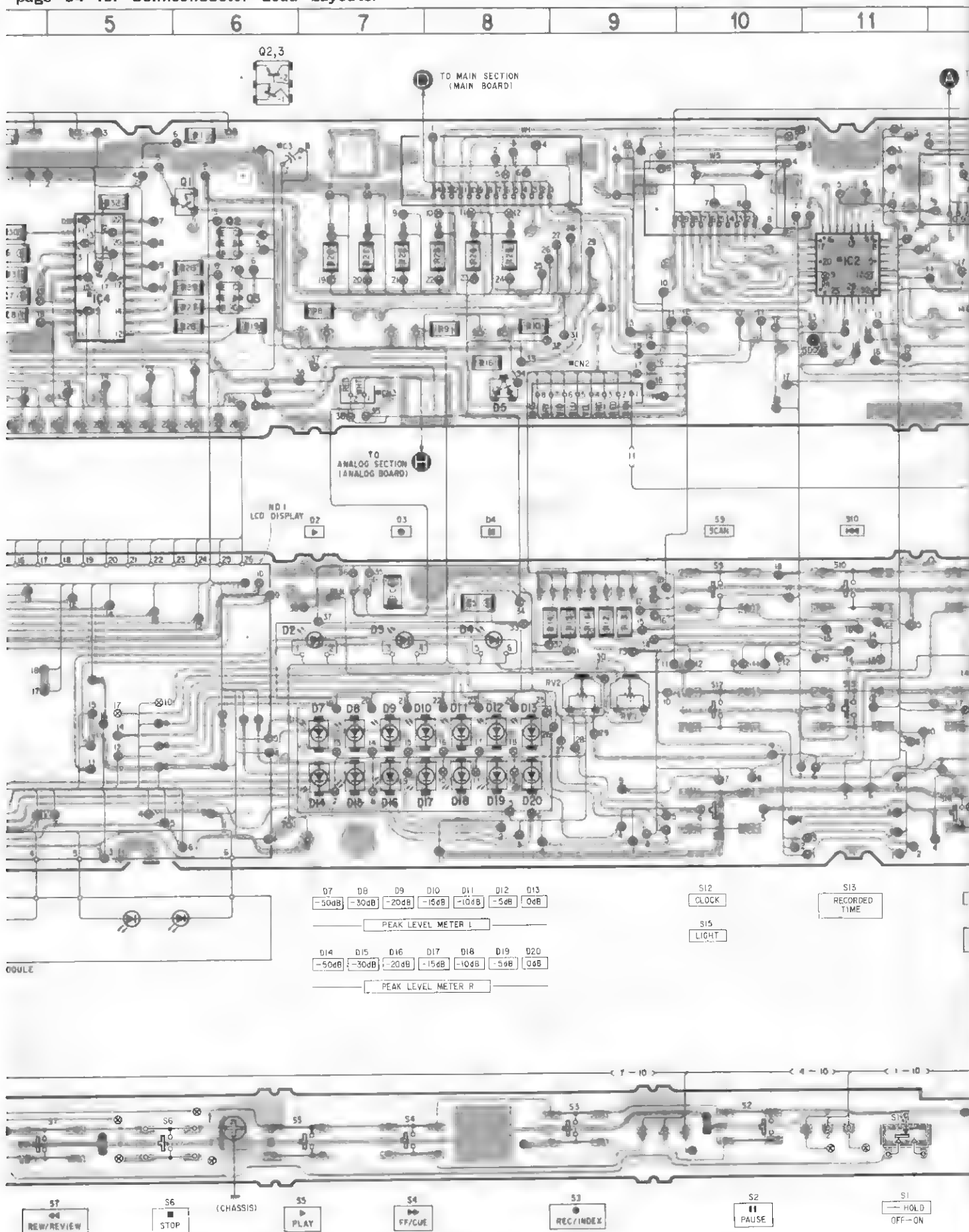
- ○ : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ⊗ : Through hole.
- [Pattern] : Pattern on the side which is seen.
- [Pattern] : Pattern on the side which is seen.

●Semiconductor Location

Ref. No.	Location
D1	H-3
D2	E-6
D3	E-7
D4	E-8
D5	C-8
D6	F-13
D7	F-7
D8	F-7
D9	F-7
D10	F-7
D11	F-8
D12	F-8
D13	F-8
D14	G-7
D15	G-7
D16	G-7
D17	G-7
D18	G-8
D19	G-8
D20	G-8
D21	I-3
IC1	B-3
IC2	B-11
IC3	B-14
IC4	C-5
Q1	B-6
Q2	B-6
Q3	C-6

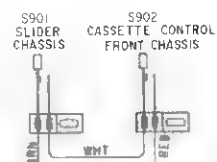
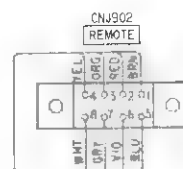
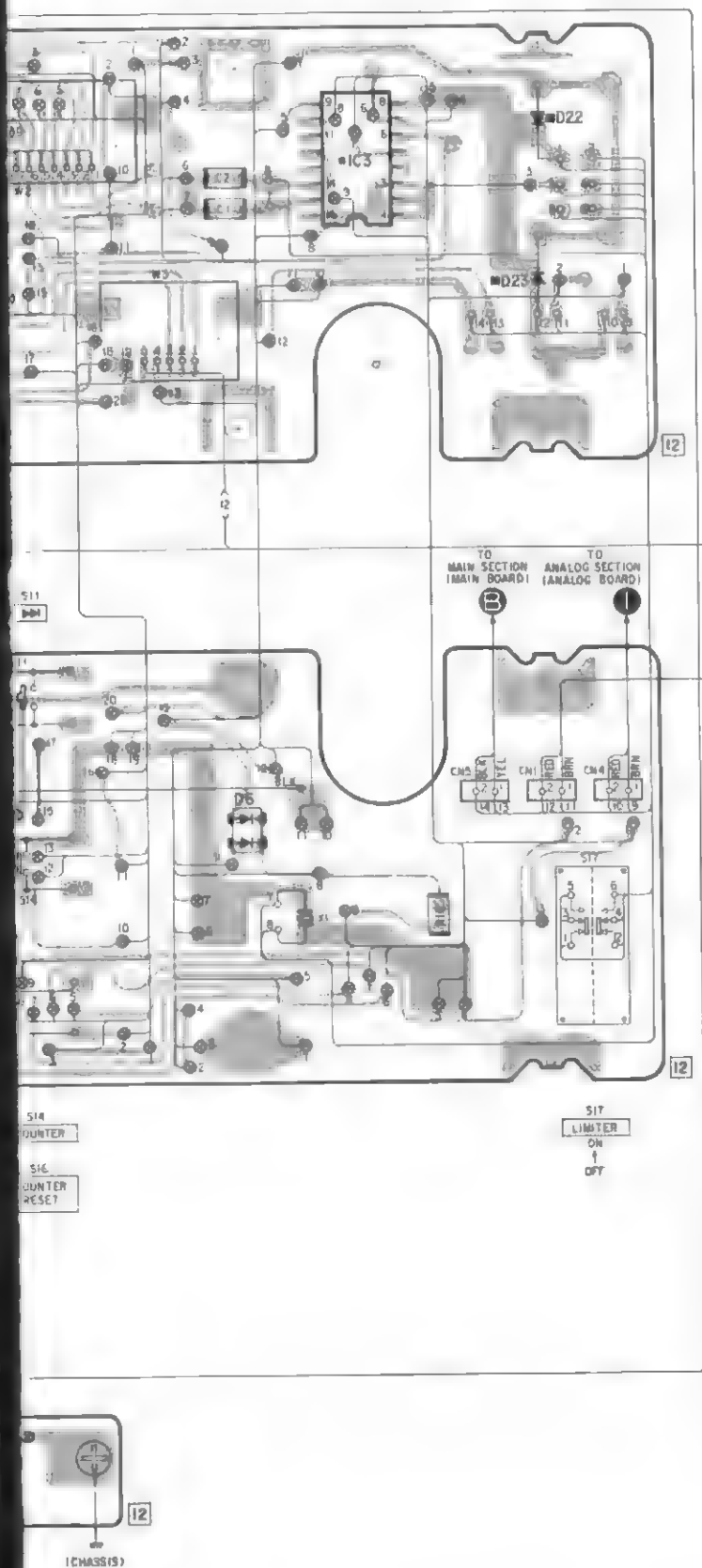


page 33 for Circuit Boards Location.
page 54 for Semiconductor Lead Layouts.

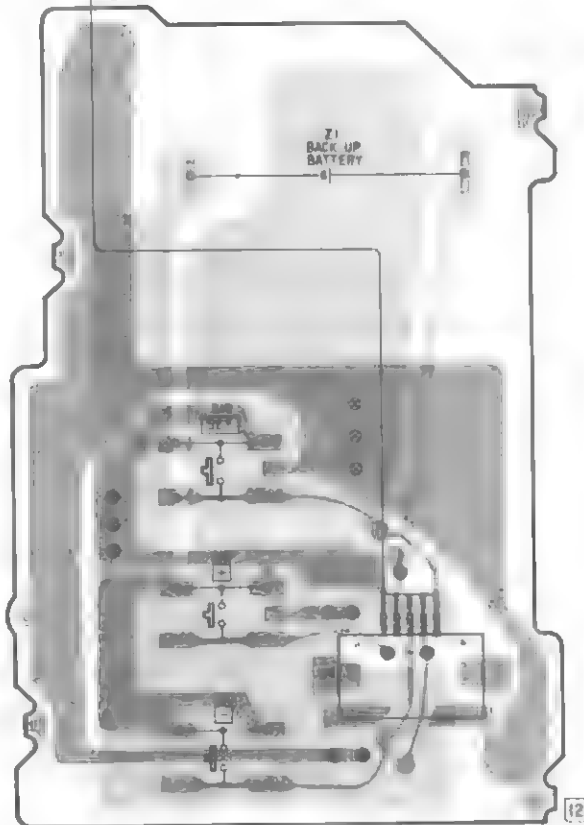


12	13	14	15	16	17	18	19
----	----	----	----	----	----	----	----

MAIN SECTION
[MAIN BOARD]

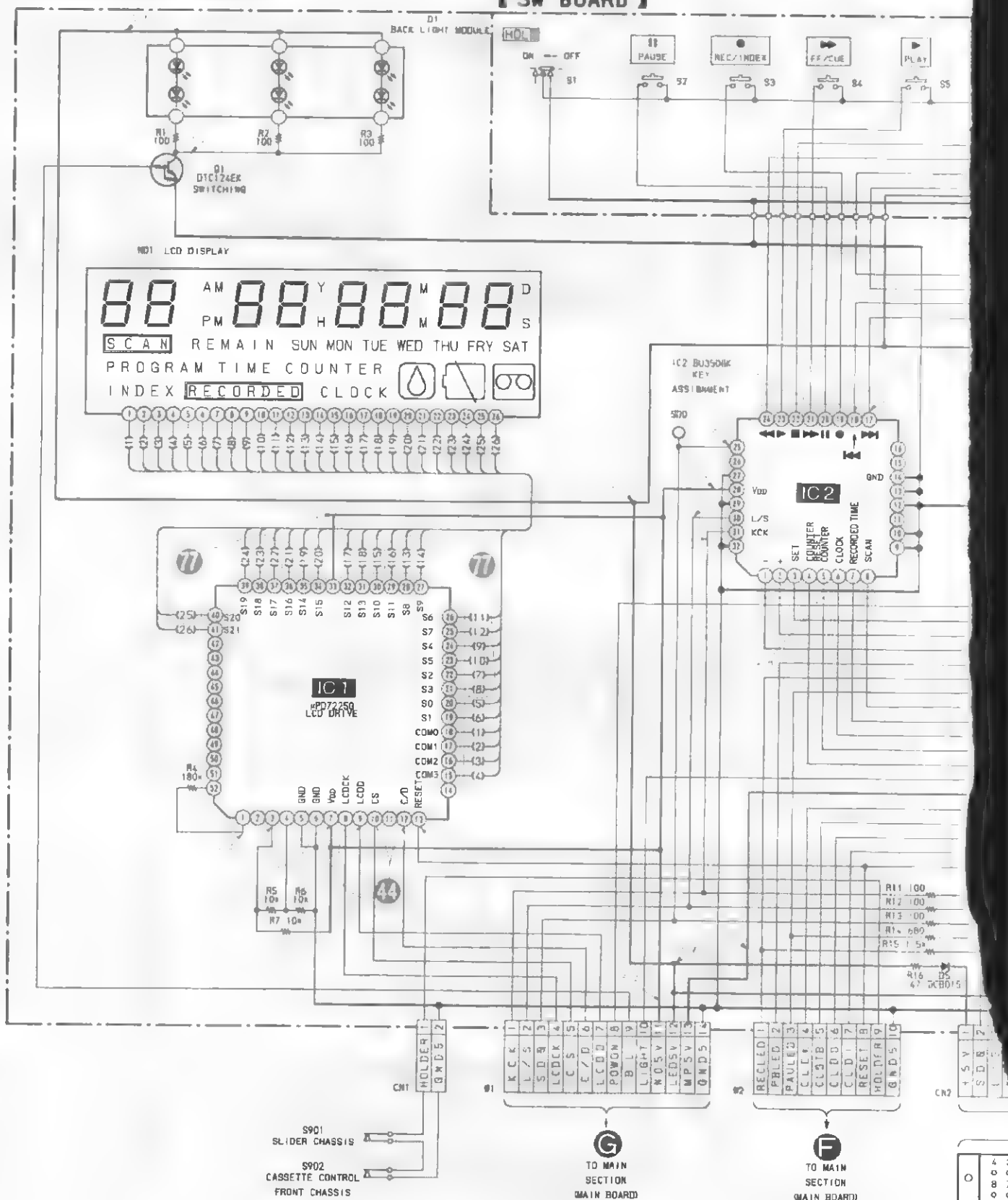


[BATT BOARD]



【SYSTEM CONTROL BOARD】

【SW BOARD】



The schematic diagram illustrates the internal circuitry of a digital video recorder (DVR). It features several key sections:

- Power Section (Top Left):** Includes a power switch (S0), a reset button (R33), and a battery connection point (BACK UP BATTERY).
- Control Section (Middle Left):** Contains various function buttons such as STOP, REW/VIEW, F.F., PAUSE, CLOCK, RECORD TIME, COUNTER, LIGHT, and COUNTER RESET.
- Digital Core (Center):** Features two integrated circuits: IC3 (74VHC90A) and IC4 (BA6820F LED DRIVER). IC3 is connected to a crystal oscillator (X1, 37.75KHz) and provides clock signals to other components. IC4 drives the LEDs through a series of resistors (R20-R29).
- LED Drive Section (Bottom Right):** Shows the output stage where the LED driver (IC4) controls ten LEDs (D1-D10) via current-limiting resistors (R20-R29).
- Connectivity (Bottom):** Includes connectors for "TO ANALOG SECTION (ANALOG BOARD)" and "TO MAIN SECTION (MAIN BOARD)".
- Components:** The circuit includes numerous passive components like resistors (e.g., R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33), capacitors (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100), and diodes (D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D39, D40, D41, D42, D43, D44, D45, D46, D47, D48, D49, D50, D51, D52, D53, D54, D55, D56, D57, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72, D73, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D98, D99, D100).

17

18

19

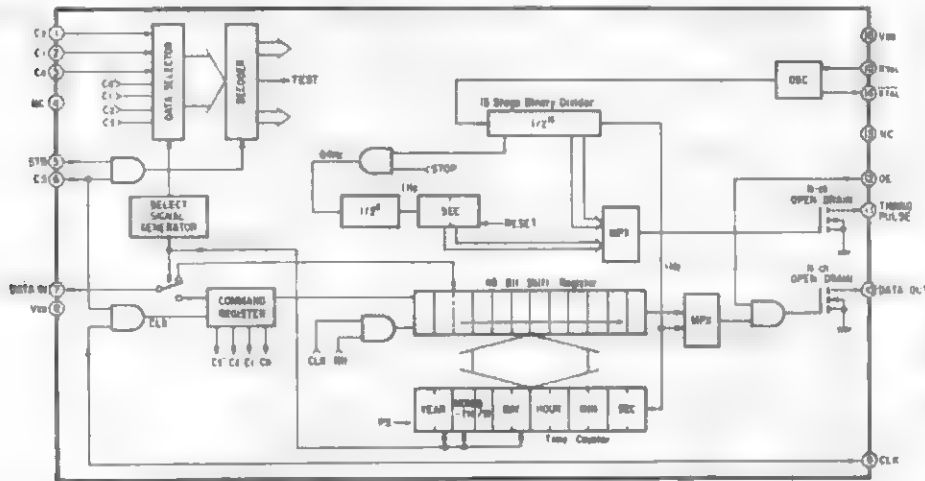
20

21

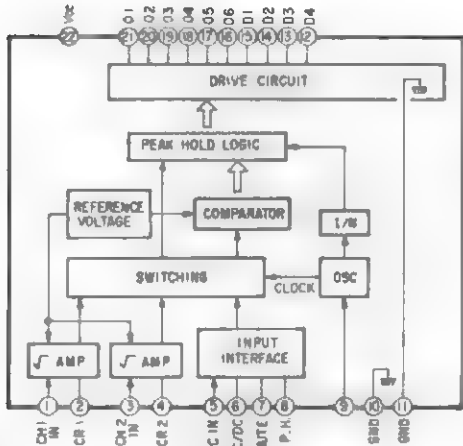
22

23

IC3 μ PD4990AG



IC4 BA6820F



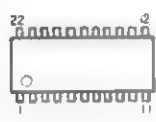
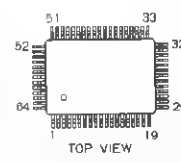
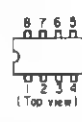

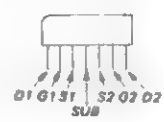

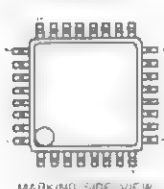
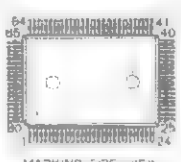
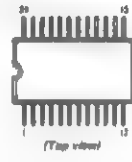



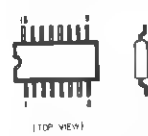
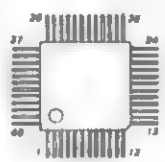
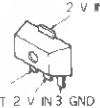
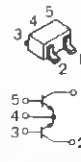
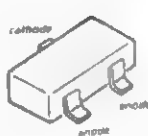

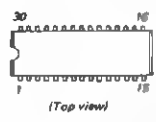
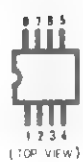

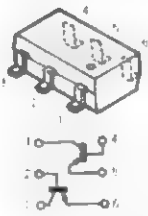
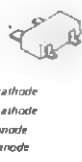

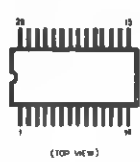
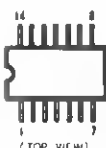

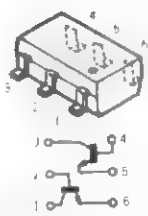

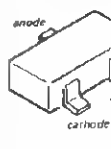
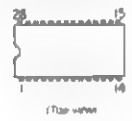
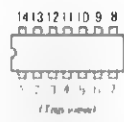
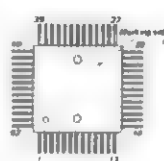
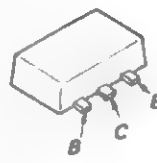



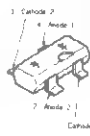
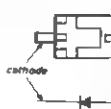
Note on Schematic Diagram:

- All capacitors are in μ F unless otherwise noted. pF: μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- — : B+ Line
- [] : adjustment for repair.
- Power voltage is dc 6.3V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are cassette tape to insert with respect to ground under no-signal conditions
no mark: STOP mode
- Voltages are taken with a VOM (50 k Ω /V)
Voltage variations may be noted due to normal production tolerances
- Waveforms are taken with a oscilloscope
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms

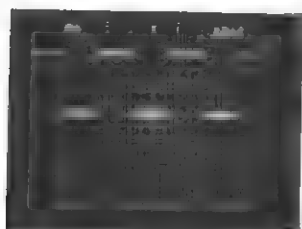
• Switch

Ref. No.	Switch	Position
S1	HOLD	OFF
S2	PAUSE ■■	OFF
S3	REC/INDEX ●	OFF
S4	FF/CUE ►►	OFF
S5	PLAY ►	OFF
S6	STOP ■	OFF
S7	REW/REVIEW ◀◀	OFF
S8	POWER	OFF
S9	SCAN	OFF
S10	◀◀	OFF
S11	►►	OFF
S12	CLOCK	OFF
S13	RECORDED TIME	OFF
S14	COUNTER	OFF
S15	LIGHT	OFF
S16	COUNTER RESET	OFF
S17	LIMITER	OFF
S18	SET	OFF
S19	+	OFF
S20	-	OFF
S901	SLIDER CHASSIS	OFF
S902	CASSETTE CONTROL FRONT CHASSIS	OFF

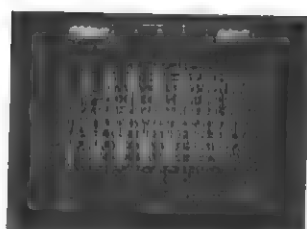
5-9. SEMICONDUCTOR LEAD LAYOUTS

BA6820F 	CXD1008Q μ PD75108GF-719-3BE  TOP VIEW	NJM2073D NJM3414D  (Top view)	DTA114YK DTA124EK DTC124EK DTC143TK DTC144EK 2SA812 2SA1342 2SB624-BV4 2SC1623-L7 2SC2712G 2SC3326N 2SC3395 	2SK389-GR 	RD3.3M-1 
BU3508K  MARKING SIDE VIEW	CXD1009Q  MARKING SIDE VIEW	PCM55HP-STA  (Top view)		2SK508-K51 	THS105  1-3 Input 2-4 Output
CX20084 MC14052BF MC14053BF MC14538BF μ PD6335G μ PD74HC163G  (TOP VIEW)	CXD1052Q-Z 	S-8054HN-CB  1 V OUT 2 V IN 3 GND	FMW2 	DCB015 1S2837 	1SS119 
CX20174  (Top view)	LF353M-FL63 LM358M LM393M LM833M-FL63 MB3763PF MC34063ML TLC272PS μ PC358G2  (TOP VIEW)	S-81250HG-RDS  1 GND 2 V IN 3 V OUT	XN6401 	DWA010  1 cathode 2 cathode 3 anode 4 anode	1SS123 
CXA1046M CXK5864M-10L SM5806ST  (TOP VIEW)	LM324M MC4044ML MC74HC86F SN74LS628NS TC74HC04F  (TOP VIEW)	TL431CLPB  REF ANODE CATHODE	XN6501 	FC53M  cathode anode	1S2835 
CXA1144S  (Top view)	μ PD4990AG  (Top view)	μ PD7225G 	2SB798 2SD999 	MA159 	GL-5EG4 GL-5HD4 GL-5HY4 
			2SB982 	MA180  1 Cathode 2 Anode 3 Cathode	SLM-12! SLM-12! 

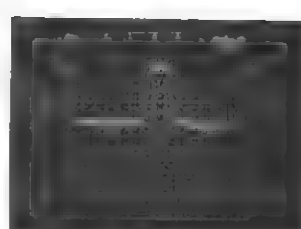
5-10. WAVEFORMS



① IC529 ②①,②②,②③ pin



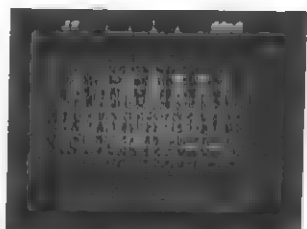
⑦ IC529 ③① pin



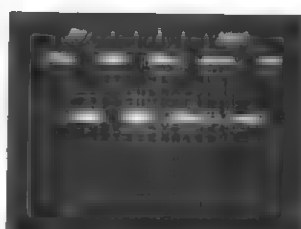
⑬ IC529 ①④ pin



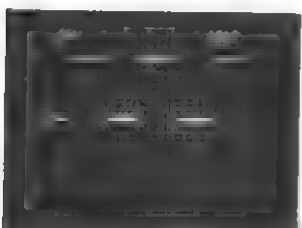
② IC524 ①③ pin



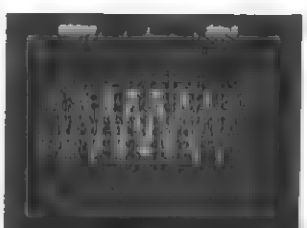
⑧ IC529 ⑤① pin



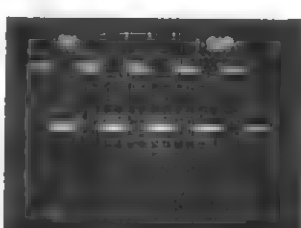
⑭ IC529 ②① pin



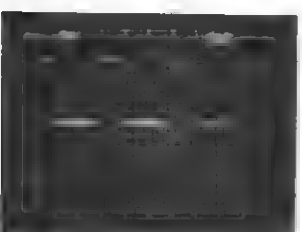
③ IC524 ⑨ pin



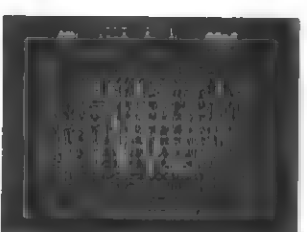
⑨ IC529 ④④ pin



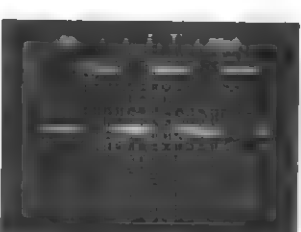
⑮ IC529 ③① pin



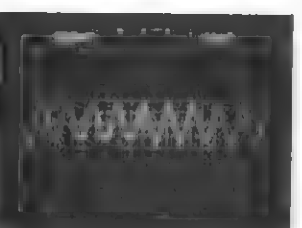
④ IC502 ①⑧ pin



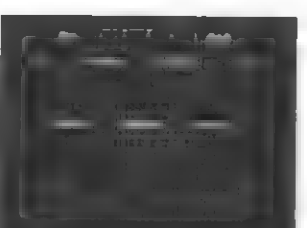
⑩ IC529 ④③ pin



⑯ IC529 ②① pin



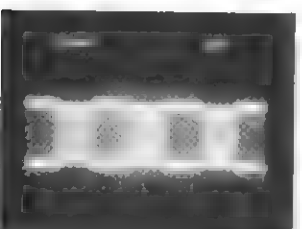
⑤ IC525 ① pin



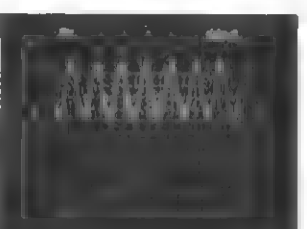
⑪ IC529 ②② pin



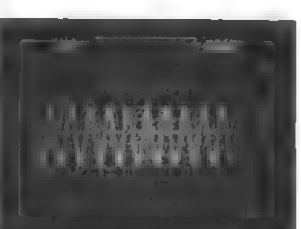
⑰ IC530 ①① pin



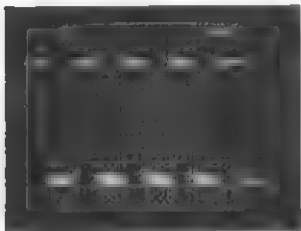
⑥ IC529 ④⑥ pin



⑫ IC529 ①③ pin



⑱ IC530 ①② pin



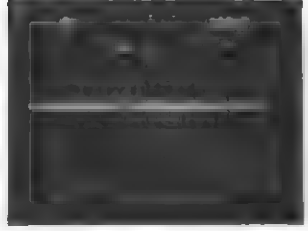
19 IC530 17 pin



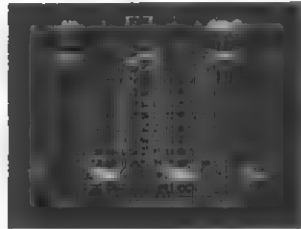
25 IC501 2 pin



31 IC502 2 pin



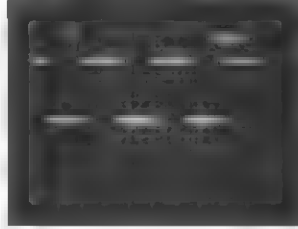
37 IC502 15 pin



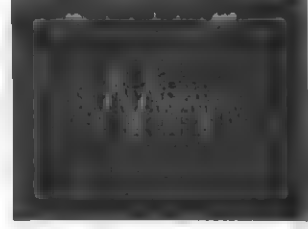
20 IC530 19 pin



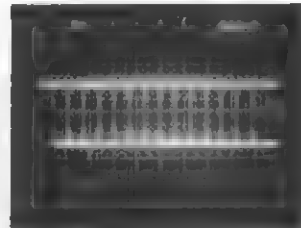
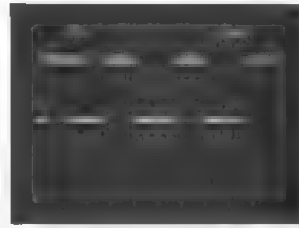
26 IC502 44 pin



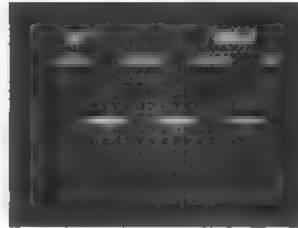
32 IC502 7 pin



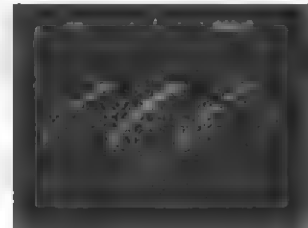
38 IC522 2 pin

21 IC530 25 pin
(Difficult to get data)

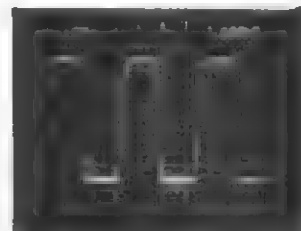
27 IC502 41 pin



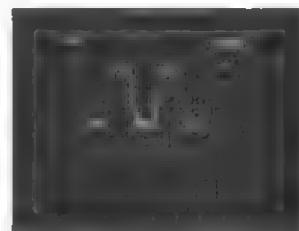
33 IC502 9 pin



39 IC516 14 pin



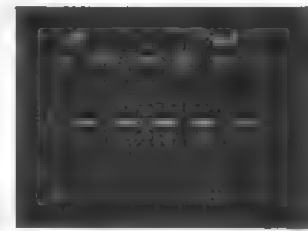
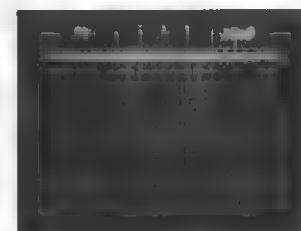
22 IC530 23, 24 pin



28 IC502 48 pin



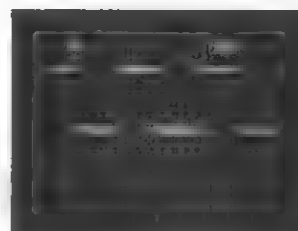
34 IC502 11 pin

40 IC507 30 pin
(FF/REW mode)

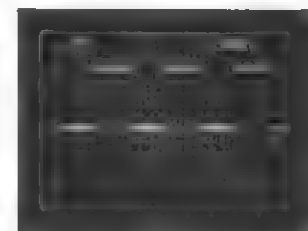
23 IC501 14 pin



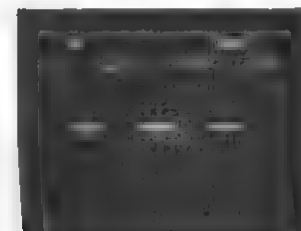
29 IC502 1 pin



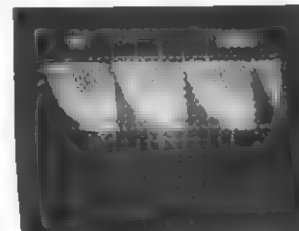
35 IC502 13 pin



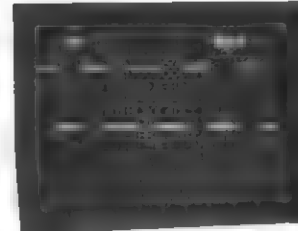
41 IC507 28 pin



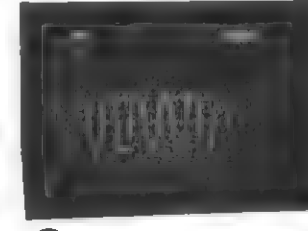
24 IC502 45 pin



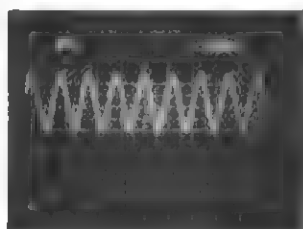
30 IC502 4 pin



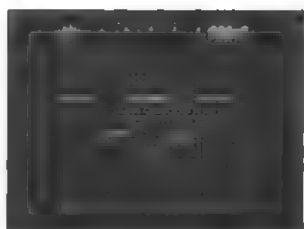
36 IC502 14 pin



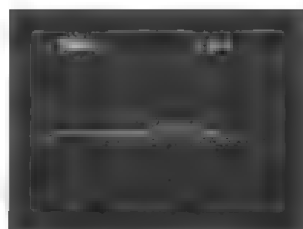
42 IC507 8 pin



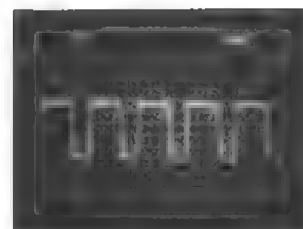
43 IC507 ⑨ pin



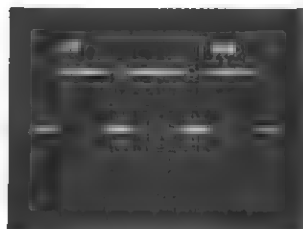
49 IC517 ③ pin



55 IC515 ⑧ pin



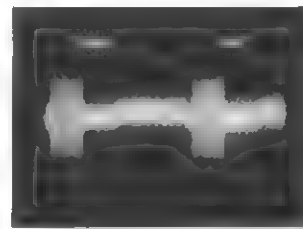
60 IC306 ⑦, ⑩ pin



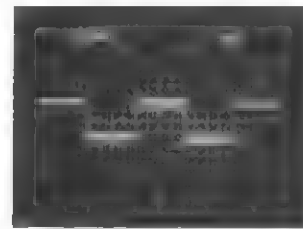
44 IC507 ⑮ pin



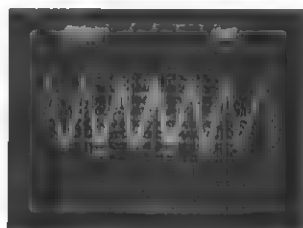
50 IC517 ④ pin



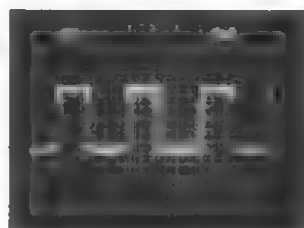
56 TP520



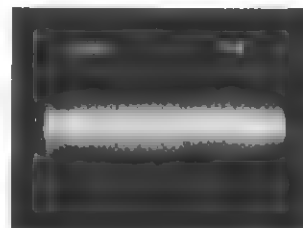
61 IC306 ⑫ pin



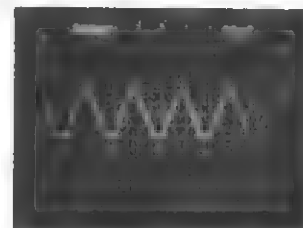
45 IC518 ⑯ pin



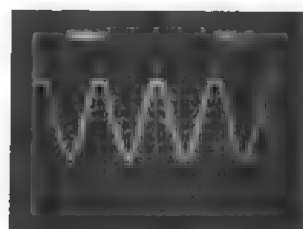
51 IC515 ⑳ pin



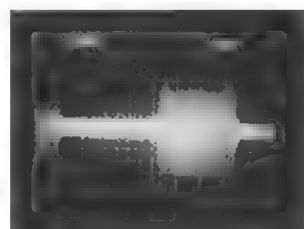
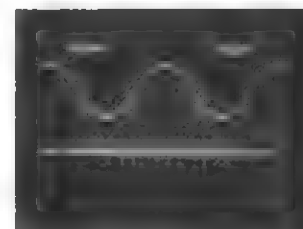
57 Head output waveform



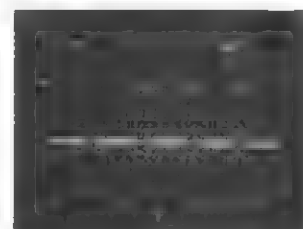
62 IC306 ㉑ pin



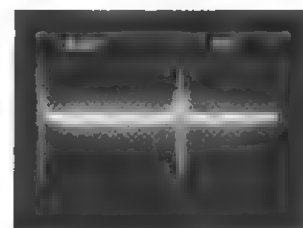
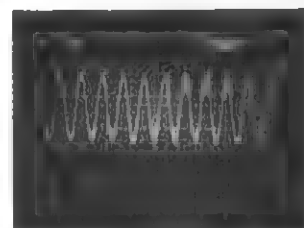
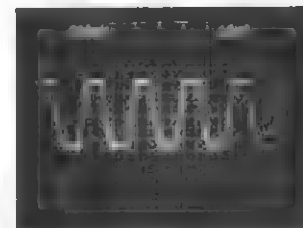
46 IC519 ① pin

52 IC515 ① pin (Settled REC
tape playback mode)

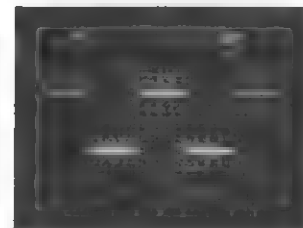
58 IC101 ① pin (REC mode)



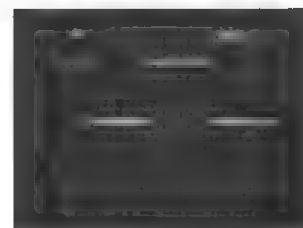
63 IC311 ⑮ pin

47 IC519 ⑭ pin
(Durm PG signal)53 IC530 ⑧ pin
(TEST MODE 1)

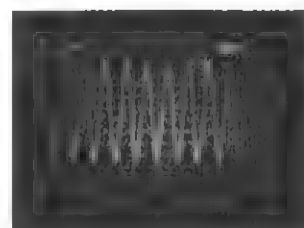
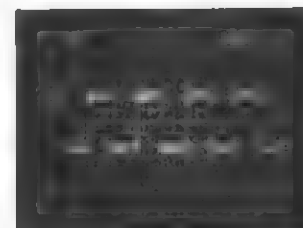
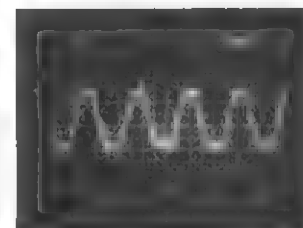
58 IC101 ① pin, IC201 ① pin



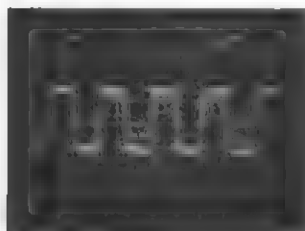
64 IC311 ⑧ pin



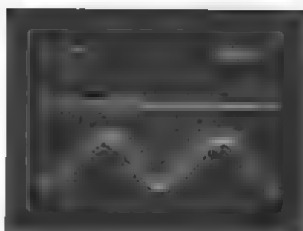
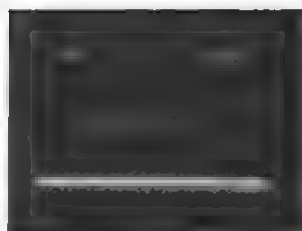
48 IC520 ⑦ pin

54 IC530 ⑨ pin
(TEST MODE 1)59 Q102, 202 Gate output
waveform

65 IC314 ② pin



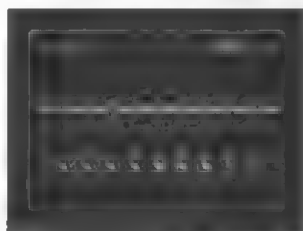
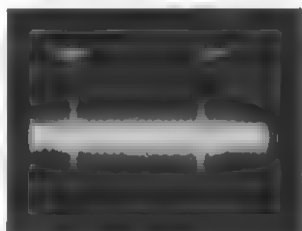
66 IC314 15 pin

72 IC101 7 pin (REC mode)
Sampling holded waveform.

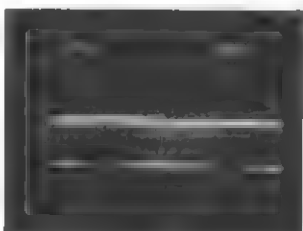
78 CRC TP503



67 IC313 4 pin

73 IC305 1 pin (REC mode)
Input to A/D CONNECTER79 IC515 5 pin
(Draw out to pilot pulse)

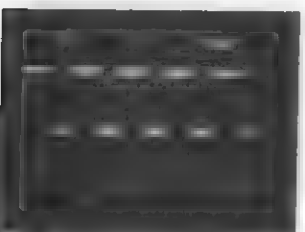
68 IC312 3 pin

74 IC306 17 pin (REC mode)
This data was changed Analog/
Digital.

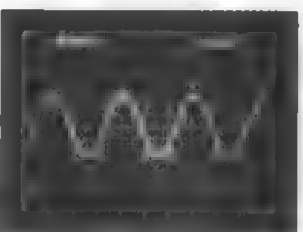
69 IC316 11 pin



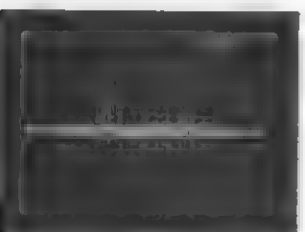
75 IC3 15 pin



70 IC315 11 pin



76 IC3 14 pin



71 IC315 10 pin

77 IC1 SEG WAVE
(Display is all 0)

SECTION 6 EXPLODED VIEWS

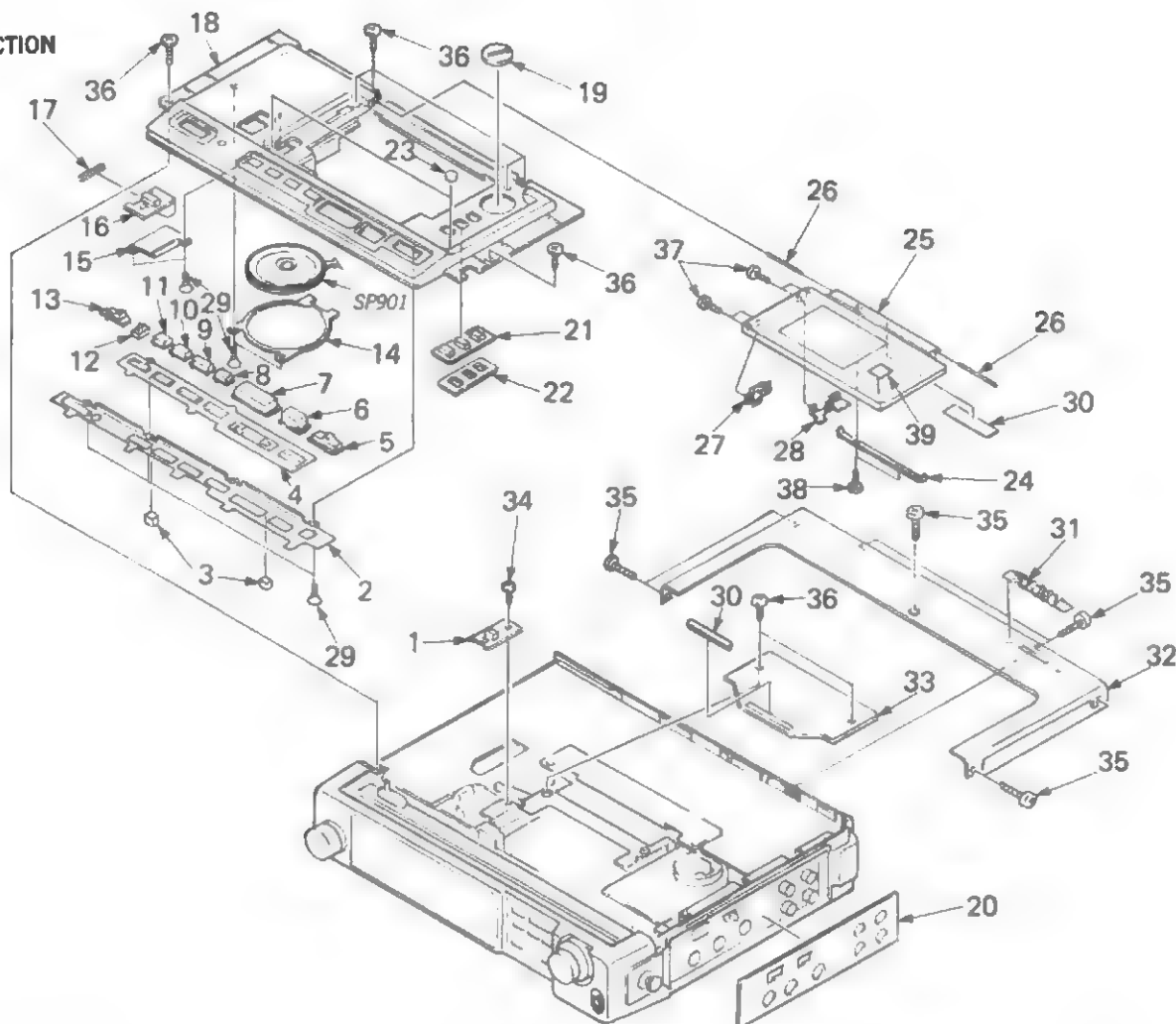
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)

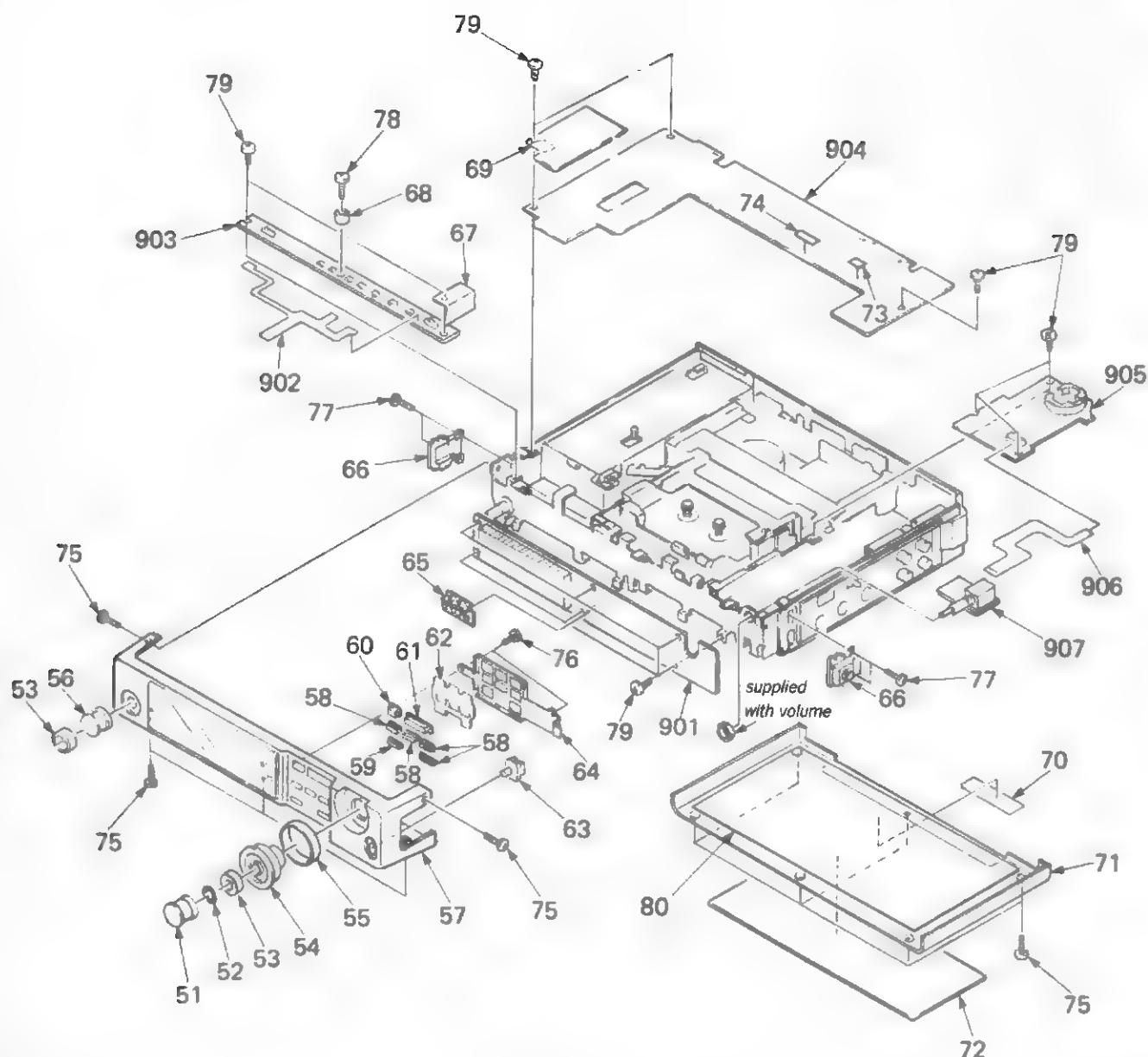
↑		↑
Cabinet's Color		Parts Color

6-1. CABINET SECTION



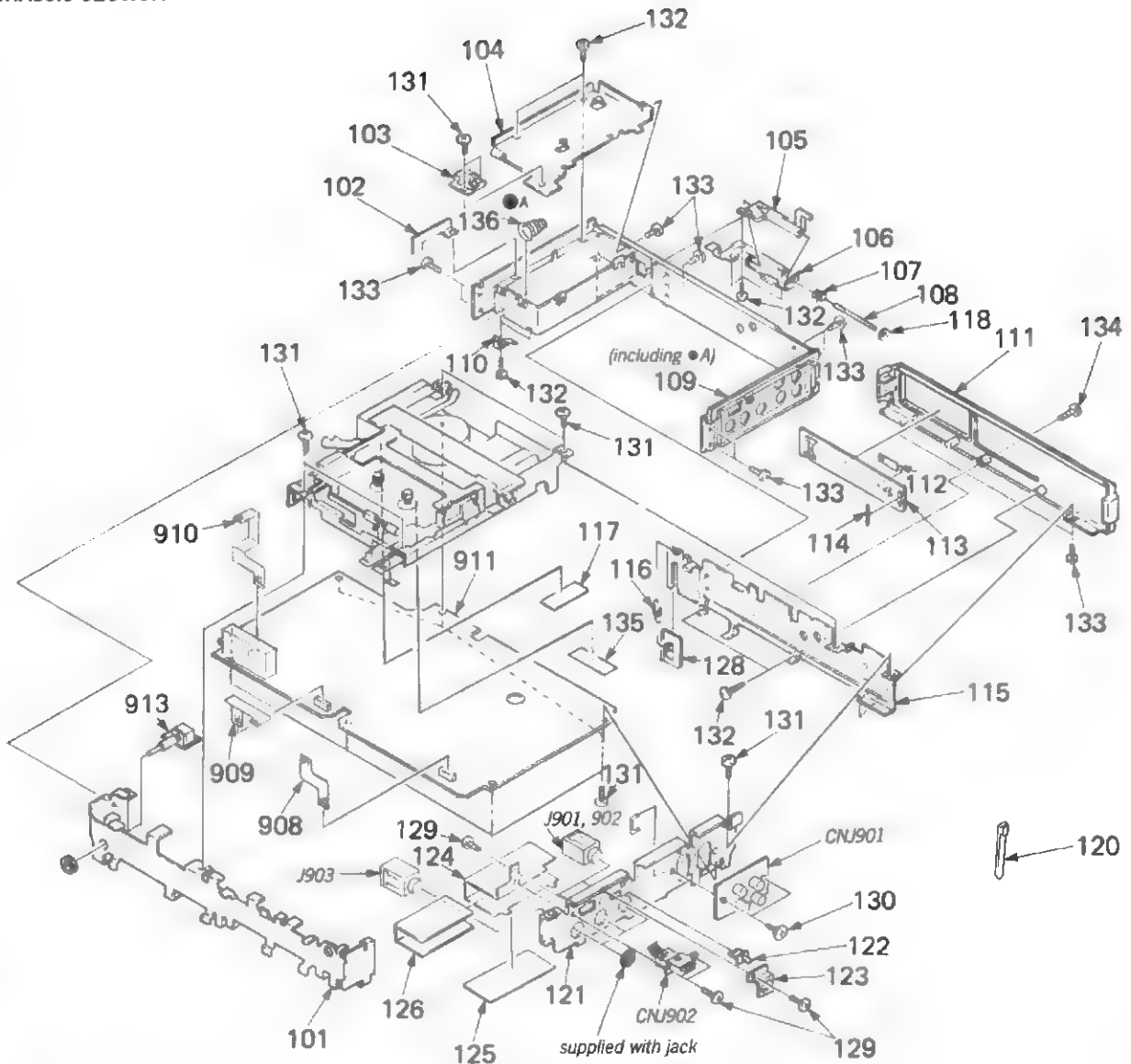
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	3-344-977-01	KNOB (EJECT)		21	3-344-952-01	BUTTON (TIME SET)	
2	*3-345-014-01	BRACKET (CONTROL BUTTON SPRING)		22	*3-344-953-01	BRACKET (TIME SET KEY)	
3	3-533-310-01	CUSHION, CASSETTE LID		23	3-331-603-01	FOOT	
4	3-344-947-01	SPRING		24	3-344-958-01	PLATE, FIXED, CASSETTE SHAFT	
5	3-344-940-01	KNOB (HOLD)		25	X-3344-911-1	LID ASSY, CASSETTE	
6	3-344-941-01	BUTTON (PAUSE)		26	3-344-957-01	SHAFT (CASSETTE LID)	
7	3-344-942-01	BUTTON (REC)		27	*3-344-959-01	PLATE, LOCK, CASSETTE LID	
8	3-344-943-01	BUTTON (FF)		28	*X-3344-906-1	PLATE ASSY, FULCRUM, OPEN ARM	
9	3-344-944-01	BUTTON (PLAY)		29	3-318-382-31	SCREW (1.7X3), TAPPING	
10	3-344-945-01	BUTTON (STOP)		30	3-344-992-01	SHEET, REAR, CASSETTE LID	
11	3-344-946-01	BUTTON (REW)		31	3-704-176-01	EMBLEM (NO.6), SONY	
12	3-344-955-01	PLATE (POWER LED), LIGHT GUIDE		32	3-345-011-01	PANEL, UPPER	
13	3-344-939-01	KNOB (POWER)		33	3-344-982-01	PLATE, ORNAMENTAL	
14	*3-344-951-01	BRACKET (SP)		34	7-627-553-18	SCREW, PRECISION +P 2X2	
15	*3-344-949-01	BRACKET (CASSETTE LID OPEN KNOB)		35	7-627-553-68	SCREW, PRECISION +P 2X6	
16	3-344-948-01	KNOB (CASSETTE LID OPEN)		36	7-621-772-10	SCREW +B 2X4	
17	3-344-950-01	SPRING, COMPRESSION		37	3-704-246-32	SCREW (P1.4X2.5)	
18	X-3344-918-1	CABINET (UPPER) ASSY		38	7-627-551-28	SCREW, PRECISION +P 1.4X2.5	
19	3-344-954-01	LID, BATTERY CASE		39	3-703-708-41	STICKER, SONY SYMBOL (18)	
20	3-344-905-01	PLATE, INDICATION, JACK		SP901	1-503-866-11	SPEAKER	

6-2. FRONT PANEL SECTION



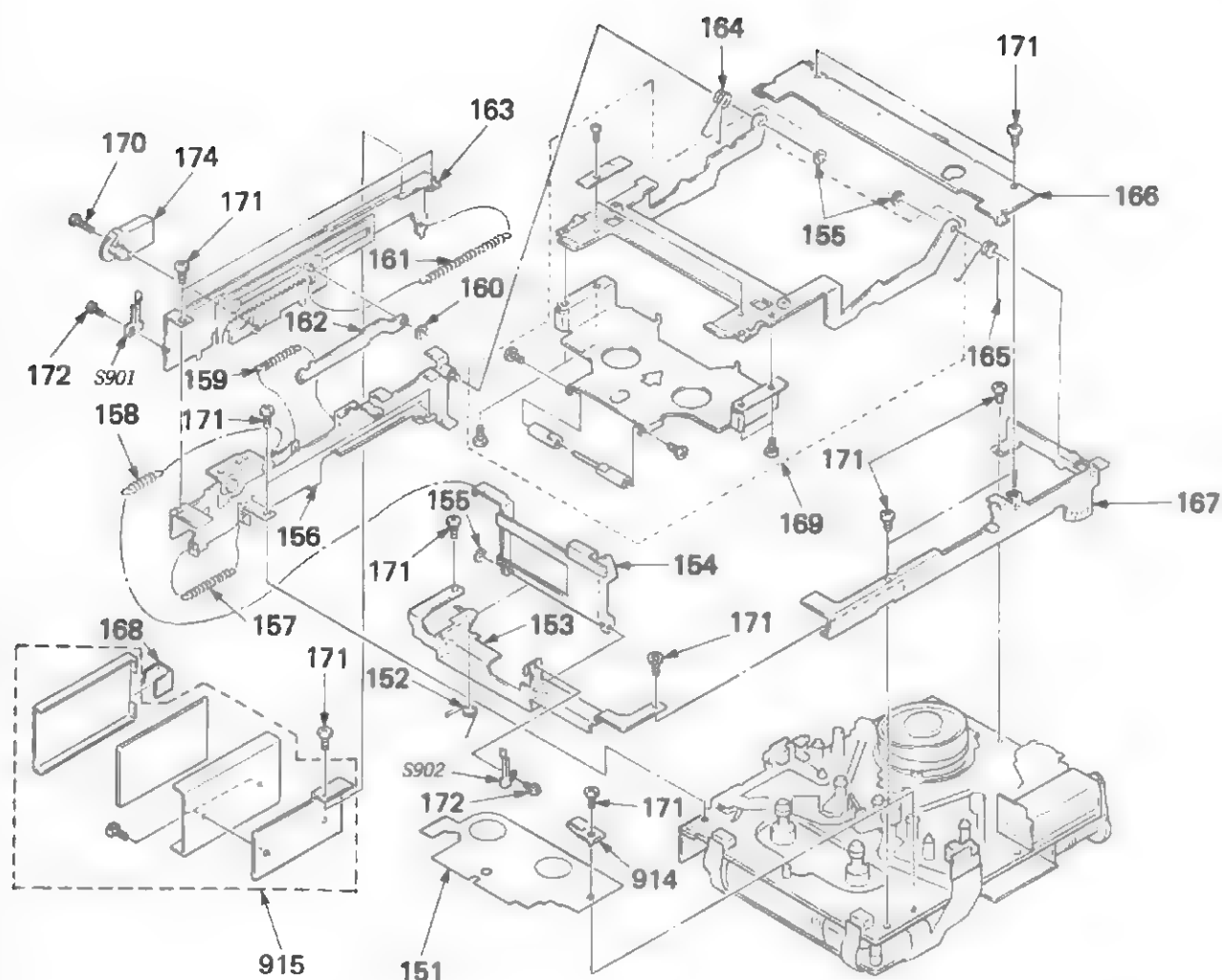
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-344-935-11	KNOB (REC VOL RIGHT)		70	*3-344-903-01	LABEL, MODEL NUMBER	
52	3-344-904-01	RING, O		71	X-3344-903-1	PANEL ASSY, LOWER	
53	3-344-937-01	RING (RIGHT), REC VOL		72	3-345-005-01	PAD (B), LOWER	
54	X-3344-904-1	KNOB (REC VOL LEFT) ASSY		73	3-831-441-XX	CUSHION, SPEAKER	
55	3-344-936-01	RING (LEFT), REC VOL		74	*3-338-667-01	SHEET, ADHESIVE, DOUBLE-FACE	
56	3-344-935-01	KNOB (REC VOL RIGHT)		75	7-627-853-58	SCREW, PRECISION +P 2X5 TYPE3	
57	X-3344-914-1	CABINET (FRONT) ASSY		76	7-621-772-10	SCREW +B 2X4	
58	3-344-931-01	BUTTON (COUNTER RESET)		77	7-627-553-48	SCREW, PRECISION +P 2X4	
59	3-344-932-01	BUTTON (LCD LIGHT)		78	7-621-772-38	SCREW +B 2X6	
60	3-344-929-01	BUTTON (SCAN)		79	7-621-772-08	SCREW +B 2X3	
61	3-344-930-01	BUTTON (SERCH)		80	*3-345-051-01	PAPER (PANEL), SHIELD	
62	3-345-013-01	SPRING		901	A-3015-586-A	PC BOARD ASSY, SYSTEM CONTROL	
63	3-344-933-01	KNOB (LIMITER SW)		902	1-625-178-11	PC BOARD, SW FLEXIBLE	
64	*3-344-934-01	BRACKET (BUTTON SPRING)		903	*1-625-179-11	PC BOARD, SW	
65	*3-344-928-01	PLATE (LED), LIGHT INTERCEPTION		904	A-3015-585-A	PC BOARD ASSY	
66	X-3344-902-1	SHAFT (STRAP) ASSY		905	*1-625-172-12	PC BOARD, BATT	
67	*3-345-041-01	PLATE (REC VOL), SHIELD		906	1-625-176-11	PC BOARD, BATT FLEXIBLE	
68	3-345-038-01	SPACER, SW PC BOARD		907	*1-625-170-12	PC BOARD, REC VOL	
69	*3-345-033-01	PAPER (A), SHIELD					

6-3. CHASSIS SECTION



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	*3-345-020-01	CHASSIS (FRONT)		125	*3-345-039-01	SHEET (A), MJ	
102	*3-345-049-01	PAPER, CONDUCTIVE		126	*3-345-040-01	SHEET (B), MJ	
103	X-3344-913-1	BRACKET ASSY		128	3-344-911-01	KNOB (BATTERY)	
104	*3-345-008-01	COVER, BATTERY CASE		129	7-621-772-10	SCREW +B 2X4	
105	3-344-919-01	CLAW, BATTERY LOCK		130	3-344-902-01	SCREW, PIN JACK STOPPER	
106	*3-344-918-01	PLATE, LOCK, BATTERY		131	7-621-772-08	SCREW +B 2X3	
107	3-344-921-01	SPRING		132	3-318-203-71	SCREW (B1.7X5), TAPPING	
108	*3-344-920-01	SHAFT (BATTERY LOCK)		133	7-627-553-48	SCREW, PRECISION +P 2X4	
109	X-3344-901-1	CABINET ASSY		134	7-627-553-98	SCREW, PRECISION +P 2X8	
110	3-344-922-01	TERMINAL, BATTERY		135	3-831-441-XX	CUSHION, SPEAKER	
111	3-345-010-01	CABINET (REAR)		136	3-686-775-01	SPRING	
112	3-344-924-01	SPRING		137	*3-324-586-11	SHEET, INSULATING, PC BOARD	
113	3-345-009-01	LID, SLIDE, BATTERY		908	1-625-175-11	PC BOARD, SYSCON (B) FLEXIBLE	
114	3-344-923-01	ROLLER, LOCK		909	1-625-174-11	PC BOARD, SYSCON (A) FLEXIBLE	
115	*3-344-910-01	CHASSIS (REAR)		910	1-625-177-11	PC BOARD, FS FLEXIBLE	
116	3-344-912-01	SPRING, TENSION		911	A-3015-584-A	PC BOARD ASSY, MAIN	
117	*3-345-032-01	SHEET (FR PACK)		913	*1-625-171-12	PC BOARD, PB VOL	
118	3-315-384-11	WASHER, STOPPER		CNJ901	1-507-593-21	PIN JACK 4P (LINE IN/OUT)	
120	3-645-566-00	BAND, BINDING		CNJ902	1-565-040-11	PIN, CONNECTOR (REMOTE)	
121	*X-3344-905-1	CHASSIS (JACK PLATE) ASSY		J901	1-507-421-31	JACK (MICROPHONE L)	
122	3-344-914-01	KNOB (MIC ATT)		J902	1-507-421-31	JACK (MICROPHONE R)	
123	*3-344-915-01	BRACKET (MIC ATT KNOB)		J903	1-565-108-11	JACK, LARGE TYPE (HEADPHONES)	
124	*3-345-035-01	PLATE (JACK), SHIELD					

6-4. MECHANISM SECTION (DATM-02)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	*3-344-994-01	PLATE, BLIND, MD		165	3-344-978-01	SPRING (R)	
152	3-344-987-01	SPRING		166	*3-344-976-01	CHASSIS (UPPER)	
153	*X-3344-910-1	CHASSIS ASSY		167	*X-3344-915-1	CHASSIS (MD-R) ASSY	
154	*3-344-988-01	PLATE, LOCK		168	*3-345-043-01	PAPER (RF), SHIELD	
155	3-344-901-01	WASHER, STOPPER		169	X-3344-917-1	FRAME ASSY	
156	*X-3344-916-1	CHASSIS (MD-L) ASSY		170	7-627-553-98	SCREW, PRECISION +P 2X8	
157	3-536-820-00	SPRING, TENSION		171	7-621-772-08	SCREW +B 2X3	
158	3-344-989-01	SPRING, TENSION		172	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
159	3-563-104-00	SPRING, TENSION		174	3-681-528-11	DAMPER	
160	3-307-948-31	WASHER, NYLON		176	3-344-974-01	SPRING (L)	
161	3-344-967-01	SPRING, TENSION		915	1-464-903-11	MODULATOR, RF	
162	3-344-963-01	ARM, CASSETTE LID OPEN		S901	1-554-154-00	SWITCH, LEAF (SLIDER CHASSIS)	
163	*X-3344-907-1	CHASSIS (OPEN SLIDER) ASSY		S902	1-554-154-00	SWITCH, LEAF (CASSETTE CONTROL FRONT CHASSIS)	

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	X-3337-602-1	RING (LEFT) ASSY, LOADING		237	3-337-607-01	SPRING	
202	X-3337-601-1	RING (RIGHT) ASSY, LOADING		238	X-3337-612-1	BRACKET (L) ASSY, E DETECTION	
203	*X-3337-607-1	ARM (LEFT) ASSY, LOADING		239	3-570-892-00	SPRING, TENSION	
204	3-337-653-01	SPRING, TENSION		240	*X-3337-619-1	CHASSIS ASSY, TENSION REGULATOR	
205	3-559-408-11	WASHER, POLYETHYLENE, DIA.1.2		241	*3-337-657-01	LEVER, LIMITER	
206	*X-3337-603-1	ARM (RIGHT) ASSY, LOADING		242	X-3337-611-1	HOLDER ASSY, MAGNET	
207	3-337-622-01	ROLLER, RING		243	X-3337-609-1	ARM ASSY, TENSION REGULATOR	
208	3-701-436-11	WASHER, 1.6 POLYETHYLENE		244	3-337-673-01	SPRING	
209	X-3337-604-1	PLATE ASSY, LOADING		245	3-307-377-00	SPRING, TENSION	
210	X-3337-613-1	ARM ASSY, F		246	*3-337-662-01	BRACKET, HOLE ELEMENT	
212	*3-337-685-01	CATCHER		247	*X-3337-605-1	ARM ASSY, RING ROLLER	
213	*X-3337-625-1	CHASSIS ASSY, MECHANICAL		248	3-337-647-01	GEAR (A), LOADING	
214	3-337-669-01	GEAR, MIDWAY		249	*3-337-696-01	SHEET, INSULATING	
215	3-337-649-01	WHEEL, WORM		250	7-621-772-08	SCREW +B 2X3	
216	3-337-648-01	GEAR (B), LOADING		251	3-703-502-11	SCREW 1.4X2	
217	3-337-652-01	BELT, CONTROL		252	7-627-552-47	SCREW, PRECISION +P 1.7X4	
218	7-624-102-04	STOP RING 1.5, TYPE -E		253	7-621-772-18	SCREW +B 2X4	
219	3-701-437-21	WASHER		254	7-627-551-17	SCREW, PRECISION +P 1.4X2	
220	3-337-650-01	GEAR, WORM		255	7-621-772-20	SCREW +B 2X5	
221	*X-3337-617-1	BRACKET ASSY, CONTROL MOTOR		256	7-628-253-00	SCREW +PS 2X4	
222	*3-337-610-01	BRACKET (RIGHT), E DETECTION		257	7-627-553-27	SCREW, PRECISION +P 2X2.5	
223	X-3337-623-1	GUIDE (5.0) ASSY, FIXED		258	7-621-255-25	SCREW +P 2X4	
224	X-3337-621-1	GUIDE (4.0) ASSY, FIXED		259	3-703-502-81	SCREW 1.4X6	
225	3-345-046-01	SPRING		260	7-627-551-87	PRECISION SCREW +P 1.4X1.8	
226	*X-3337-614-1	SLANT ASSY		261	7-627-552-27	SCREW, PRECISION +P 1.7X2	
227	3-337-626-01	CAP, PINCH ROLLER		262	7-627-552-18	SCREW, PRECISION +P 1.7X1.6	
228	X-3337-610-1	PINCH ROLLER ASSY		263	3-561-626-00	SPRING, TENSION	
229	X-3337-608-1	ARM ASSY, PINCH ROLLER		264	*3-345-101-01	PLATE (LOADING MOTOR), SHIELD	
230	3-547-659-00	SPRING, TENSION		914	1-808-281-11	SENSOR	
231	X-3337-622-1	GUIDE (POM) ASSY, ROLLER		916	8-835-285-01	MOTOR, DC U-2C	
232	X-3337-616-1	SLANT BLOCK (RIGHT) ASSY		917	8-835-206-01	MOTOR, DC BHF-2803A	
233	X-3337-615-1	SLANT BLOCK (LEFT) ASSY		918	1-464-724-11	ENCODER, ROTARY	
234	3-337-698-01	OPENER, LID		919	X-3337-626-1	L MOTOR ASSY	
235	3-337-664-01	ROLLER		920	8-848-509-01	DRUM ASSY DOH-01E	
236	X-3337-627-1	SLIDER ASSY, MODE		921	1-625-241-11	PC BOARD, MD (A) FLEXIBLE	
				922	A-2096-054-A	MOUNTED PCB, TENSION REGULATOR	

SECTION 7 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ PF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA....: μ A...., UPA....: μ PA....,UPC....: μ PC, UPD....: μ PD....

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	A-3015-586-A	PC BOARD ASSY, SYSTEM CONTROL	C117	1-124-287-00	ELECT 10MF 20% 10V
902	1-625-178-11	PC BOARD, SW FLEXIBLE	C118	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
903	*1-625-179-11	PC BOARD, SW	C119	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
904	A-3015-585-A	PC BOARD ASSY	C120	1-124-287-00	ELECT 10MF 20% 10V
905	*1-625-172-12	PC BOARD, BATT	C121	1-124-287-00	ELECT 10MF 20% 10V
906	1-625-176-11	PC BOARD, BATT FLEXIBLE	C122	1-163-022-00	CERAMIC CHIP 0.012MF 10% 50V
907	*1-625-170-12	PC BOARD, REC VOL	C123	1-163-133-00	CERAMIC CHIP 470PF 10% 50V
908	1-625-175-11	PC BOARD, SYSCON (B) FLEXIBLE	C201	1-163-111-00	CERAMIC CHIP 56PF 5% 50V
909	1-625-174-11	PC BOARD, SYSCON (A) FLEXIBLE	C202	1-163-121-00	CERAMIC CHIP 150PF 5% 50V
910	1-625-177-11	PC BOARD, FS FLEXIBLE	C203	1-124-287-00	ELECT 10MF 20% 10V
911	A-3015-584-A	PC BOARD ASSY, MAIN	C204	1-124-287-00	ELECT 10MF 20% 10V
913	*1-625-171-12	PC BOARD, PB VOL	C205	1-163-111-00	CERAMIC CHIP 56PF 5% 50V
914	1-808-281-11	SENSOR	C206	1-136-162-00	FILM 0.056MF 5% 50V
915	1-464-903-11	MODULATOR, RF	C207	1-124-287-00	ELECT 10MF 20% 10V
916	8-835-285-01	MOTOR, DC U-2C	C208	1-126-151-11	ELECT 4.7MF 20% 16V
917	8-835-206-01	MOTOR, DC BHF-2803A	C209	1-124-462-00	ELECT 10MF 20% 16V
918	1-464-724-11	ENCODER, ROTARY	C210	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V
919	X-3337-626-1	L MOTOR ASSY	C211	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V
920	8-848-509-01	DRUM ASSY DOH-01E	C212	1-103-733-00	POLYSTYRENE 0.0022MF 5% 50V
921	1-625-241-11	PC BOARD, MD (A) FLEXIBLE	C213	1-163-121-00	CERAMIC CHIP 150PF 5% 50V
922	A-2096-054-A	MOUNTED PCB, TENSION REGULATOR	C214	1-124-225-00	ELECT 100MF 20% 6.3V
C1	1-163-100-00	CERAMIC CHIP 20PF 5% 50V	C215	1-124-461-11	ELECT 4.7MF 20% 16V
C2	1-163-100-00	CERAMIC CHIP 20PF 5% 50V	C216	1-124-461-11	ELECT 4.7MF 20% 16V
C3	1-124-225-00	ELECT 100MF 20% 6.3V	C217	1-124-287-00	ELECT 10MF 20% 10V
C4	1-135-091-00	TANTAL. CHIP 1MF 10% 16V	C218	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C5	1-135-091-00	TANTAL. CHIP 1MF 10% 16V	C219	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
C6	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V	C220	1-124-287-00	ELECT 10MF 20% 10V
C7	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V	C221	1-124-287-00	ELECT 10MF 20% 10V
C8	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	C222	1-163-022-00	CERAMIC CHIP 0.012MF 10% 50V
C101	1-163-111-00	CERAMIC CHIP 56PF 5% 50V	C223	1-163-133-00	CERAMIC CHIP 470PF 10% 50V
C102	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	C301	1-124-236-00	ELECT 47MF 20% 16V
C103	1-124-287-00	ELECT 10MF 20% 10V	C302	1-124-236-00	ELECT 47MF 20% 16V
C104	1-124-287-00	ELECT 10MF 20% 10V	C303	1-124-222-00	ELECT 22MF 20% 6.3V
C105	1-163-111-00	CERAMIC CHIP 56PF 5% 50V	C304	1-124-222-00	ELECT 22MF 20% 6.3V
C106	1-136-162-00	FILM 0.056MF 5% 50V	C305	1-124-222-00	ELECT 22MF 20% 6.3V
C107	1-124-287-00	ELECT 10MF 20% 10V	C306	1-124-222-00	ELECT 22MF 20% 6.3V
C108	1-126-151-11	ELECT 4.7MF 20% 16V	C307	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V
C109	1-124-462-00	ELECT 10MF 20% 16V	C308	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V
C110	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V	C309	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V
C111	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V	C310	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V
C112	1-103-733-00	POLYSTYRENE 0.0022MF 5% 50V	C311	1-124-462-00	ELECT 10MF 20% 16V
C113	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	C312	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
C114	1-124-225-00	ELECT 100MF 20% 6.3V	C313	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
C115	1-124-461-11	ELECT 4.7MF 20% 16V	C314	1-135-099-00	TANTAL. CHIP 2.2MF 10% 6.3V
C116	1-124-461-11	ELECT 4.7MF 20% 16V	C315	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V

Ref.No.	Part No.	Description			
C316	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C317	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C318	1-163-088-00	CERAMIC CHIP 5PF	0.25PF	50V	
C319	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	
C320	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C321	1-124-462-00	ELECT 10MF	20%	16V	
C322	1-124-462-00	ELECT 10MF	20%	16V	
C323	1-124-229-00	ELECT 33MF	20%	10V	
C324	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C325	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C326	1-124-462-00	ELECT 10MF	20%	16V	
C327	1-124-462-00	ELECT 10MF	20%	16V	
C328	1-163-081-00	CERAMIC CHIP 0.22MF		25V	
C329	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C330	1-124-462-00	ELECT 10MF	20%	16V	
C332	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C333	1-135-099-00	TANTAL. CHIP 2.2MF	10%	6.3V	
C334	1-135-099-00	TANTAL. CHIP 2.2MF	10%	6.3V	
C335	1-124-461-11	ELECT 4.7MF	20%	16V	
C336	1-124-461-11	ELECT 4.7MF	20%	16V	
C337	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C338	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C339	1-124-443-00	ELECT 100MF	20%	10V	
C340	1-124-436-00	ELECT 3.3MF	20%	25V	
C341	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C342	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C344	1-135-099-00	TANTAL. CHIP 2.2MF	10%	6.3V	
C345	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C346	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C347	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C348	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C349	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C350	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C351	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C352	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C353	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C354	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C355	1-124-224-00	ELECT 47MF	20%	6.3V	
C356	1-124-229-00	ELECT 33MF	20%	6.3V	
C357	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C358	1-124-224-00	ELECT 47MF	20%	6.3V	
C359	1-124-444-00	ELECT 220MF	20%	6.3V	
C360	1-124-229-00	ELECT 33MF	20%	6.3V	
C361	1-135-099-00	TANTAL. CHIP 2.2MF	10%	6.3V	
C362	1-135-099-00	TANTAL. CHIP 2.2MF	10%	6.3V	
C363	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C364	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C501	1-136-157-00	FILM 0.022MF	5%	50V	
C502	1-136-155-00	FILM 0.015MF	5%	50V	
C503	1-131-388-00	TANTALUM 68MF	10%	6.3V	
C504	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C505	1-136-160-00	FILM 0.039MF	5%	50V	
C506	1-136-169-00	FILM 0.22MF	5%	50V	
C507	1-136-172-00	FILM 0.39MF	5%	50V	
C508	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C509	1-124-462-00	ELECT 10MF	20%	16V	
C510	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	

Ref.No.	Part No.	Description			
C511	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C512	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C513	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C514	1-163-098-00	CERAMIC CHIP 16PF	5%	50V	
C515	1-163-098-00	CERAMIC CHIP 16PF	5%	50V	
C516	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V	
C517	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C518	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C519	1-124-222-00	ELECT 22MF	20%	6.3V	
C520	1-124-462-00	ELECT 10MF	20%	16V	
C521	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C522	1-124-222-00	ELECT 22MF	20%	6.3V	
C523	1-124-236-00	ELECT 47MF	20%	10V	
C524	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C529	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C530	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C531	1-124-222-00	ELECT 22MF	20%	6.3V	
C532	1-124-225-00	ELECT 100MF	20%	6.3V	
C533	1-135-091-00	TANTAL. CHIP 1MF	10%	16V	
C534	1-126-103-11	ELECT 470MF	20%	10V	
C535	1-124-462-00	ELECT 10MF	20%	16V	
C536	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C537	1-124-236-00	ELECT 47MF	20%	10V	
C538	1-124-462-00	ELECT 10MF	20%	16V	
C539	1-136-173-00	FILM 0.47MF	5%	50V	
C540	1-136-169-00	FILM 0.22MF	5%	50V	
C541	1-124-462-00	ELECT 10MF	20%	16V	
C542	1-124-462-00	ELECT 10MF	20%	16V	
C543	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C544	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C545	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V	
C546	1-131-388-00	TANTALUM 68MF	10%	6.3V	
C547	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C548	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C549	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C550	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C551	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C552	1-136-157-00	FILM 0.022MF	5%	50V	
C553	1-136-157-00	FILM 0.022MF	5%	50V	
C554	1-136-153-00	FILM 0.01MF	5%	50V	
C555	1-136-153-00	FILM 0.01MF	5%	50V	
C556	1-131-382-00	TANTALUM 6.8MF	10%	6.3V	
C557	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	
C558	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C559	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	
C560	1-136-153-00	FILM 0.01MF	5%	50V	
C561	1-124-462-00	ELECT 10MF	20%	16V	
C562	1-124-236-00	ELECT 47MF	20%	10V	
C563	1-136-169-00	FILM 0.22MF	5%	50V	
C564	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C565	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C566	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C567	1-124-462-00	ELECT 10MF	20%	16V	
C568	1-124-462-00	ELECT 10MF	20%	16V	
C569	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V	
C570	1-135-091-00	TANTAL. CHIP 1MF	10%	16V	
C571	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V	

Ref.No.	Part No.	Description							
C572	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C573	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C574	1-135-091-00	TANTAL. CHIP	1MF	10%	16V				
C575	1-124-225-00	ELECT	100MF	20%	6.3V				
C576	1-124-462-00	ELECT	10MF	20%	16V				
C577	1-163-013-00	CERAMIC CHIP	0.0022MF	10%	50V				
C578	1-124-225-00	ELECT	100MF	20%	6.3V				
C579	1-124-462-00	ELECT	10MF	20%	16V				
C580	1-163-013-00	CERAMIC CHIP	0.0022MF	10%	50V				
C581	1-124-236-00	ELECT	47MF	20%	10V				
C582	1-124-436-00	ELECT	3.3MF	20%	25V				
C583	1-124-436-00	ELECT	3.3MF	20%	25V				
C584	1-124-225-00	ELECT	100MF	20%	6.3V				
C586	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V				
C587	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C588	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C589	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C590	1-124-222-00	ELECT	22MF	20%	6.3V				
C591	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V				
C592	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C593	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C594	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C595	1-124-462-00	ELECT	10MF	20%	16V				
C596	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C597	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V				
C598	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C599	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V				
C600	1-124-462-00	ELECT	10MF	20%	16V				
C601	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V				
C602	1-163-117-00	CERAMIC CHIP	100PF	5%	50V				
C603	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V				
C604	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C605	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V				
C606	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C607	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C608	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V				
C609	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V				
C610	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C611	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C612	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C613	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C614	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C615	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V				
C616	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C617	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C618	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C619	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C620	1-135-091-00	TANTAL. CHIP	1MF	10%	16V				
C622	1-124-576-11	ELECT	220MF	20%	4V				
C623	1-124-576-11	ELECT	220MF	20%	4V				
C624	1-124-222-00	ELECT	22MF	20%	6.3V				
C801	1-126-103-11	ELECT	470MF	20%	10V				
C802	1-124-442-00	ELECT	330MF	20%	6.3V				
C803	1-124-442-00	ELECT	330MF	20%	6.3V				
C804	1-124-120-11	ELECT	220MF	20%	25V				
C805	1-124-120-11	ELECT	220MF	20%	25V				
C806	1-124-444-00	ELECT	220MF	20%	10V				
C807	1-124-234-00	ELECT	22MF	20%	10V				
C808	1-124-234-00	ELECT	22MF	20%	10V				
C809	1-163-034-00	CERAMIC CHIP	0.033MF	10%	25V				
C810	1-124-234-00	ELECT	22MF	20%	10V				
C811	1-124-462-00	ELECT	10MF	20%	16V				
C812	1-135-072-21	TANTAL. CHIP	0.22MF	10%	35V				
C815	1-163-135-00	CERAMIC CHIP	560PF	10%	50V				
C816	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V				
C817	1-126-090-11	ELECT	82MF	20%	10V				
C818	1-124-234-00	ELECT	22MF	20%	10V				
C819	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V				
C820	1-163-133-00	CERAMIC CHIP	470PF	10%	50V				
C901	1-102-106	CERAMIC	100P						
C902	1-102-106	CERAMIC	100P						
CN1	1-565-582-31	PIN, CONNECTOR (PC BOARD)	2P						
CN2	1-565-588-11	PIN, CONNECTOR (PC BOARD)	8P						
CN3	1-565-582-21	PIN, CONNECTOR (PC BOARD)	2P						
CN4	1-565-582-11	PIN, CONNECTOR (PC BOARD)	2P						
CN5	1-565-582-51	PIN, CONNECTOR (PC BOARD)	2P						
CN301	1-565-570-21	PIN, CONNECTOR (PC BOARD)	4P						
CN302	1-565-572-21	PIN, CONNECTOR (PC BOARD)	6P						
CN303	1-565-572-11	PIN, CONNECTOR (PC BOARD)	6P						
CN304	1-565-572-31	PIN, CONNECTOR (PC BOARD)	6P						
CN305	1-565-574-11	PIN, CONNECTOR (PC BOARD)	8P						
CN306	1-565-568-21	PIN, CONNECTOR (PC BOARD)	2P						
CN307	1-565-568-11	PIN, CONNECTOR (PC BOARD)	2P						
CN308	1-565-568-31	PIN, CONNECTOR (PC BOARD)	2P						
CN309	1-565-570-11	PIN, CONNECTOR (PC BOARD)	4P						
CN311	1-565-568-11	PIN, CONNECTOR (PC BOARD)	2P						
CN312	1-565-571-21	PIN, CONNECTOR (PC BOARD)	5P						
CN501	1-565-568-21	PIN, CONNECTOR (PC BOARD)	2P						
CN502	1-565-570-11	PIN, CONNECTOR (PC BOARD)	4P						
CN504	1-565-568-31	PIN, CONNECTOR (PC BOARD)	2P						
CN505	1-565-571-21	PIN, CONNECTOR (PC BOARD)	5P						
CN506	1-565-568-41	PIN, CONNECTOR (PC BOARD)	2P						
CN507	1-565-568-11	PIN, CONNECTOR (PC BOARD)	2P						
CN508	1-565-571-11	PIN, CONNECTOR (PC BOARD)	5P						
CN509	1-565-574-11	PIN, CONNECTOR (PC BOARD)	8P						
CN510	1-565-578-11	PIN, CONNECTOR (PC BOARD)	12P						
CN511	1-565-568-51	PIN, CONNECTOR (PC BOARD)	2P						
CNJ901	1-507-593-21	PIN JACK 4P (LINE IN/OUT)							
CNJ902	1-565-040-11	PIN, CONNECTOR (REMOTE)							
CP301	1-464-902-11	CIRCUIT UNIT, AUDIO							
D1	1-808-243-11	DIODE (BLOCK TYPE)							
D2	8-719-939-97	DIODE GL5EG42							
D3	8-719-939-42	DIODE GL5HD42							
D4	8-719-939-36	DIODE GL5HY42							
D5	8-719-940-38	DIODE DCB015							
D6	8-719-404-12	DIODE MA159							
D7	8-719-946-86	DIODE SLM-125MC							
D8	8-719-946-86	DIODE SLM-125MC							
D9	8-719-946-86	DIODE SLM-125MC							
D10	8-719-946-87	DIODE SLM-125VC							
D11	8-719-946-87	DIODE SLM-125VC							
D12	8-719-946-87	DIODE SLM-125VC							
D13	8-719-946-87	DIODE SLM-125VC							
D14	8-719-946-86	DIODE SLM-125MC							
D15	8-719-946-86	DIODE SLM-125MC							

Ref.No.	Part No.	Description
D16	8-719-946-86	DIODE SLM-125MC
D17	8-719-946-87	DIODE SLM-125VC
D18	8-719-946-87	DIODE SLM-125VC
D19	8-719-946-87	DIODE SLM-125VC
D20	8-719-946-87	DIODE SLM-125VC
D21	8-719-946-86	DIODE SLM-125MC
D22	8-719-911-19	DIODE ISS119
D23	8-719-911-19	DIODE ISS119
D101	8-719-101-23	DIODE ISS123
D102	8-719-404-12	DIODE MA159
D201	8-719-101-23	DIODE ISS123
D202	8-719-404-12	DIODE MA159
D301	8-719-404-12	DIODE MA159
D302	8-719-100-05	DIODE 1S2837
D303	8-719-100-03	DIODE 1S2835
D304	8-719-940-38	DIODE DCB015
D502	8-719-100-05	DIODE 1S2837
D504	8-719-940-45	DIODE DWA010
D505	8-719-403-94	DIODE MA160
D506	8-719-940-45	DIODE DWA010
D507	8-719-100-05	DIODE 1S2837
D509	8-719-940-45	DIODE DWA010
D510	8-719-100-05	DIODE 1S2837
D511	8-719-101-23	DIODE ISS123
D512	8-719-915-30	DIODE FC53M
D513	8-719-100-05	DIODE 1S2837
D801	8-719-100-05	DIODE 1S2837
D803	8-719-105-45	DIODE RD3.3M-B1
F801	1-532-779-21	FUSE, MICRO (SECONDARY)
FL1	1-236-071-11	ENCAPSULATED COMPONENT
FL301	1-464-900-11	FILTER UNIT, LOW PASS
H001	8-719-800-11	THS105-SONY1-TE85L
IC1	8-759-105-68	IC UPD7225G-00
IC2	8-759-970-58	IC BU3508K
IC3	8-759-140-57	IC UPD4990AG-T1
IC4	8-759-970-62	IC BA6820F-T1
IC101	8-759-970-69	IC LF353M-FL63
IC201	8-759-970-69	IC LF353M-FL63
IC301	8-759-970-69	IC LF353M-FL63
IC302	8-759-970-67	IC LM833M-FL63
IC303	8-759-970-67	IC LM833M-FL63
IC304	8-759-009-07	IC MC14053BF
IC305	8-759-970-69	IC LF353M-FL63
IC306	8-752-031-78	IC CXA1144S
IC307	8-759-701-43	IC NJM3414D
IC308	8-759-100-94	IC UPC358G2
IC309	8-759-701-54	IC NJM2073D
IC310	8-759-941-71	IC PCM55HP-ST A
IC311	8-759-945-37	IC SM5806ST
IC312	8-759-013-41	IC MC4044ML
IC313	8-759-931-47	IC SN74LS628NS
IC314	8-759-106-94	IC UPD74HC163G
IC315	8-759-106-94	IC UPD74HC163G
IC316	8-759-204-96	IC TC74HC04F
IC501	8-759-009-51	IC MC14538BF
IC502	8-759-946-81	IC CXD1052Q-Z
IC503	8-759-013-22	IC LM358MR
IC504	8-759-013-22	IC LM358MR
IC505	8-759-140-60	IC UPD6335G

Ref.No.	Part No.	Description
IC506	8-759-970-58	IC BU3508K
IC507	8-759-142-99	IC UPD75108GF-719-38E
IC508	8-759-030-03	IC LM393MR
IC509	8-759-030-06	IC LM324MR
IC510	8-759-009-07	IC MC14053BF
IC511	8-759-013-22	IC LM358MR
IC512	8-759-914-15	IC MB3763PF
IC513	8-759-013-22	IC LM358MR
IC514	8-759-030-06	IC LM324MR
IC515	8-752-030-63	IC CXA1046M
IC516	8-759-009-51	IC MC14538BF
IC517	8-759-909-45	IC CX20084
IC518	8-752-017-40	IC CX20174
IC519	8-759-030-06	IC LM324MR
IC520	8-759-030-03	IC LM393MR
IC521	8-759-030-06	IC LM324MR
IC522	8-759-030-03	IC LM393MR
IC523	8-759-008-48	IC MC74HC86F
IC524	8-759-009-06	IC MC14052BF
IC525	8-759-970-59	IC TLC272CPS
IC526	8-759-970-59	IC TLC272CPS
IC527	8-752-323-50	IC CXK5864M-10L
IC528	8-752-323-50	IC CXK5864M-10L
IC529	8-759-933-85	IC CXD1009Q
IC530	8-759-933-84	IC CXD1008Q
IC531	8-759-009-07	IC MC14053BF
IC533	8-759-013-27	IC MC34063ML
IC534	8-759-914-44	IC TL431CLPB
IC801	8-759-937-54	IC S-81250HG-RD-S
IC802	8-759-940-45	IC S-8054HN-CB
IC803	1-464-899-11	CONVERTER UNIT, DC-DC
J901	1-507-421-31	JACK (MICROPHONE L)
J902	1-507-421-31	JACK (MICROPHONE R)
J903	1-565-108-11	JACK, LARGE TYPE (HEADPHONES)
JR601	1-216-295-00	METAL GLAZE ■ 5% 1/10W
L301	1-410-188-51	INDUCTOR CHIP 0.47UH
L302	1-410-328-11	INDUCTOR 10UH
L303	1-410-328-11	INDUCTOR 10UH
L304	1-421-665-11	COIL
L501	1-421-665-11	COIL
L502	1-406-264-11	COIL (OSC)
L503	1-459-857-11	COIL (WITH CORE)
L504	1-408-575-00	INDUCTOR 100UH
ND1	1-808-231-11	DISPLAY PANEL, LIQUID CRYSTAL
N051	3-831-441-XX	CUSHION, CABINET UPPER 10X7X0.3
PH901	1-807-698-11	PHOTO SENSOR
PH902	1-807-698-11	PHOTO SENSOR
Q1	8-729-901-00	TRANSISTOR DTC124EK
Q2	8-729-402-78	TRANSISTOR XM6401
Q3	8-729-402-78	TRANSISTOR XM6401
Q101	8-729-203-21	TRANSISTOR 2SK389-GR
Q102	8-729-116-64	TRANSISTOR 2SK508-K51
Q103	8-729-202-38	TRANSISTOR 2SC3326N
Q104	8-729-159-64	TRANSISTOR 2SD596
Q105	8-729-100-67	TRANSISTOR 2SC1623-L7
Q201	8-729-203-21	TRANSISTOR 2SK389-GR

Ref.No.	Part No.	Description
Q202	8-729-116-64	TRANSISTOR 2SK508-K51
Q203	8-729-202-38	TRANSISTOR 2SC3326N
Q204	8-729-159-64	TRANSISTOR 2SD596
Q205	8-729-100-67	TRANSISTOR 1623-L7
Q301	8-729-402-19	TRANSISTOR XN6501
Q302	8-729-402-19	TRANSISTOR XN6501
Q303	8-729-901-01	TRANSISTOR DTC144EK
Q304	8-729-100-67	TRANSISTOR 2SC1623-L7
Q305	8-729-271-22	TRANSISTOR 2SC27120G
Q306	8-729-901-05	TRANSISTOR DTA124EK
Q307	8-729-901-05	TRANSISTOR DTA124EK
Q308	8-729-901-05	TRANSISTOR DTC124EK
Q309	8-729-101-07	TRANSISTOR 2SB798
Q310	8-729-402-19	TRANSISTOR XN6501
Q311	8-729-199-92	TRANSISTOR 2SD999
Q312	8-729-402-78	TRANSISTOR XN6401
Q501	8-729-100-76	TRANSISTOR 2SA812
Q502	8-729-100-67	TRANSISTOR 2SC1623-L7
Q503	8-729-100-76	TRANSISTOR 2SA812
Q504	8-729-100-67	TRANSISTOR 2SC1623-L7
Q505	8-729-100-76	TRANSISTOR 2SA812
Q506	8-729-100-67	TRANSISTOR 2SC1623-L7
Q508	8-729-100-76	TRANSISTOR 2SA812
Q509	8-729-903-82	TRANSISTOR FMW2
Q510	8-729-100-76	TRANSISTOR 2SA812
Q511	8-729-100-76	TRANSISTOR 2SA812
Q512	8-729-900-98	TRANSISTOR DTC143TK
Q513	8-729-100-76	TRANSISTOR 2SA812
Q514	8-729-900-98	TRANSISTOR DTC143TK
Q517	8-729-100-67	TRANSISTOR 2SC1623-L7
Q518	8-729-102-78	TRANSISTOR 2SB962
Q519	8-729-162-44	TRANSISTOR 2SB624-BV4
Q520	8-729-100-76	TRANSISTOR 2SA812
Q521	8-729-159-64	TRANSISTOR 2SD596
Q522	8-729-100-67	TRANSISTOR 2SC1623-L7
Q523	8-729-162-44	TRANSISTOR 2SB624-BV4
Q524	8-729-100-76	TRANSISTOR 2SA812
Q525	8-729-159-64	TRANSISTOR 2SD596
Q526	8-729-100-67	TRANSISTOR 2SC1623-L7
Q527	8-729-805-67	TRANSISTOR 2SA1342
Q528	8-729-805-67	TRANSISTOR 2SA1342
Q529	8-729-901-00	TRANSISTOR DTC124EK
Q530	8-729-100-76	TRANSISTOR 2SA812
Q531	8-729-102-78	TRANSISTOR 2SB962
Q532	8-729-805-45	TRANSISTOR 2SC3395
Q533	8-729-805-45	TRANSISTOR 2SC3395
Q534	8-729-100-76	TRANSISTOR 2SA812
Q535	8-729-111-14	TRANSISTOR 2SA1385-L
Q536	8-729-903-82	TRANSISTOR FMW2
Q537	8-729-903-82	TRANSISTOR FMW2
Q538	8-729-100-67	TRANSISTOR 2SC1623-L7
Q539	8-729-100-67	TRANSISTOR 2SC1623-L7
Q540	8-729-100-67	TRANSISTOR 2SC1623-L7
Q541	8-729-100-67	TRANSISTOR 2SC1623-L7
Q542	8-729-100-67	TRANSISTOR 2SC1623-L7
Q543	8-729-100-76	TRANSISTOR 2SA812
Q544	8-729-100-67	TRANSISTOR 2SC1623-L7

Ref.No.	Part No.	Description
Q545	8-729-100-76	TRANSISTOR 2SA812
Q546	8-729-100-67	TRANSISTOR 2SC1623-L7
Q550	8-729-101-07	TRANSISTOR 2SB798
Q801	8-729-111-14	TRANSISTOR 2SA1385-L
Q802	8-729-901-00	TRANSISTOR DTC124EK
Q804	8-729-901-46	TRANSISTOR DTA114YK
Q805	8-729-100-67	TRANSISTOR 2SC1623-L7
Q806	8-729-111-14	TRANSISTOR 2SA1385-L
Q807	8-729-100-67	TRANSISTOR 2SC1623-L7
R1	1-216-025-00	METAL GLAZE 100 5% 1/10W
R2	1-216-025-00	METAL GLAZE 100 5% 1/10W
R3	1-216-025-00	METAL GLAZE 100 5% 1/10W
R4	1-216-103-00	METAL GLAZE 180K 5% 1/10W
R5	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R6	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R7	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R8	1-216-045-00	METAL GLAZE 680 5% 1/10W
R9	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R10	1-216-045-00	METAL GLAZE 680 5% 1/10W
R11	1-216-025-00	METAL GLAZE 100 5% 1/10W
R12	1-216-025-00	METAL GLAZE 100 5% 1/10W
R13	1-216-025-00	METAL GLAZE 100 5% 1/10W
R14	1-216-045-00	METAL GLAZE 680 5% 1/10W
R15	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R16	1-216-017-00	METAL GLAZE 47 5% 1/10W
R18	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R19	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R20	1-216-043-00	METAL GLAZE 560 5% 1/10W
R21	1-216-043-00	METAL GLAZE 560 5% 1/10W
R22	1-216-043-00	METAL GLAZE 560 5% 1/10W
R23	1-216-043-00	METAL GLAZE 560 5% 1/10W
R24	1-216-043-00	METAL GLAZE 560 5% 1/10W
R25	1-216-043-00	METAL GLAZE 560 5% 1/10W
R26	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R27	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R28	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R29	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R30	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R31	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R32	1-216-748-11	METAL GLAZE 39K 5% 1/10W
R33	1-216-047-00	METAL GLAZE 820 5% 1/10W
R101	1-216-619-11	METAL CHIP 47 0.50% 1/10W
R102	1-216-675-11	METAL CHIP 10K 0.50% 1/10W
R103	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W
R104	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W
R105	1-216-025-00	METAL GLAZE 100 5% 1/10W
R106	1-216-025-00	METAL GLAZE 100 5% 1/10W
R107	1-216-672-11	METAL CHIP 7.5K 0.50% 1/10W
R108	1-216-646-11	METAL CHIP 620 0.50% 1/10W
R109	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W
R110	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R111	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W
R112	1-216-649-11	METAL CHIP 820 0.50% 1/10W
R113	1-216-677-11	METAL CHIP 12K 0.50% 1/10W
R114	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R115	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R116	1-216-017-00	METAL GLAZE 47 5% 1/10W

Ref.No.	Part No.	Description				
R117	1-216-636-11	METAL CHIP	240	0.50%	1/10W	
R118	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R119	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R120	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R121	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R122	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R123	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R124	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R125	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R126	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R127	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W	
R128	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R129	1-216-684-11	METAL CHIP	24K	0.50%	1/10W	
R130	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R131	1-216-658-11	METAL CHIP	2K	0.50%	1/10W	
R132	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R133	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R134	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R135	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R136	1-216-160-00	METAL GLAZE	27	5%	1/8W	
R137	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R138	1-216-068-00	METAL GLAZE	6.2K	5%	1/10W	
R139	1-216-068-00	METAL GLAZE	6.2K	5%	1/10W	
R140	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R141	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R142	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R143	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R144	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R145	1-216-011-00	METAL GLAZE	27	5%	1/10W	
R146	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R147	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R148	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R149	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R150	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R151	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R152	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R153	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R154	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R155	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R201	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R202	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R203	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R204	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R205	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R206	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R207	1-216-672-11	METAL CHIP	7.5K	0.50%	1/10W	
R208	1-216-646-11	METAL CHIP	620	0.50%	1/10W	
R209	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R210	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R211	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R212	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R213	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R214	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R215	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R216	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R217	1-216-636-11	METAL CHIP	240	0.50%	1/10W	
R218	1-216-647-11	METAL CHIP	680	0.50%	1/10W	

Ref.No.	Part No.	Description				
R219	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R220	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R221	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R222	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R223	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R224	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R225	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R226	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R227	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W	
R228	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R229	1-216-684-11	METAL CHIP	24K	0.50%	1/10W	
R230	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R231	1-216-658-11	METAL CHIP	2K	0.50%	1/10W	
R232	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R233	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R234	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R235	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R236	1-216-160-00	METAL GLAZE	27	5%	1/8W	
R237	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R238	1-216-068-00	METAL GLAZE	6.2K	5%	1/10W	
R239	1-216-068-00	METAL GLAZE	6.2K	5%	1/10W	
R240	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R241	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R242	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R243	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R244	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R245	1-216-011-00	METAL GLAZE	27	5%	1/10W	
R246	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R247	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R248	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R249	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R250	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R251	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R252	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R253	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R254	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R255	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R301	1-216-670-11	METAL CHIP	6.2K	0.50%	1/10W	
R302	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R303	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R305	1-218-236-91	METAL GLAZE	1		1/4W	
R306	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R307	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R308	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R309	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R310	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R311	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R313	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R314	1-216-066-00	METAL GLAZE	5.1K	5%	1/10W	
R315	1-216-066-00	METAL GLAZE	5.1K	5%	1/10W	
R316	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R317	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R320	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R321	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R322	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	

Ref.No.	Part No.	Description				
R323	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R324	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R325	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R326	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R327	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R328	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R329	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R330	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R331	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R332	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R333	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R334	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R335	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R336	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R501	1-216-698-11	METAL CHIP	91K	0.50%	1/10W	
R502	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R503	1-216-697-11	METAL CHIP	82K	0.50%	1/10W	
R504	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R505	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R506	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R507	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R508	1-216-090-00	METAL GLAZE	51K	5%	1/10W	
R509	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R510	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R511	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R512	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R513	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R514	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R515	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R516	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R517	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R519	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R520	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R521	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R522	1-216-064-00	METAL GLAZE	4.3K	5%	1/10W	
R523	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R524	1-216-084-00	METAL GLAZE	30K	5%	1/10W	
R525	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R526	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R527	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R528	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R529	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R531	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R532	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R533	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R534	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R535	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R536	1-216-680-11	METAL CHIP	16K	0.50%	1/10W	
R537	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R538	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R539	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R540	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R541	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R542	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R543	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R544	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R545	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

Ref.No.	Part No.	Description				
R546	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R547	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R548	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R549	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R550	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R551	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R552	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R553	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R554	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R555	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R556	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R557	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R558	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R559	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R560	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R561	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R562	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R563	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R564	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R565	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R574	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R575	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R576	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R577	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R578	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R579	1-218-236-91	METAL GLAZE	1		1/4W	
R580	1-218-236-91	METAL GLAZE	1		1/4W	
R581	1-216-308-00	METAL GLAZE	4.7	5%	1/10W	
R582	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R583	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R584	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R585	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R586	1-216-114-00	METAL GLAZE	510K	5%	1/10W	
R587	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R588	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R589	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R590	1-218-232-91	METAL GLAZE	4.7		1/2W	
R591	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R592	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R593	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R594	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R595	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R596	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R597	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R598	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R599	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R600	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R604	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R605	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R606	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R607	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R608	1-216-696-11	METAL CHIP	75K	0.50%	1/10W	
R609	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R610	1-216-684-11	METAL CHIP	24K	0.50%	1/10W	
R611	1-216-672-11	METAL CHIP	7.5K	0.50%	1/10W	
R612	1-216-066-00	METAL GLAZE	5.1K	5%	1/10W	
R613	1-216-077-00	METAL GLAZE	15K	5%	1/10W	

Ref.No.	Part No.	Description			
R614	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R615	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R616	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R617	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R618	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R619	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R620	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R621	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R622	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R623	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R625	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R626	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R627	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R628	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R629	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R630	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R631	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R632	1-216-080-00	METAL GLAZE	20K	5%	1/10W
R633	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R634	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R636	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R637	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R638	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R639	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R640	1-216-041-00	METAL GLAZE	470	5%	1/10W
R641	1-216-064-00	METAL GLAZE	4.3K	5%	1/10W
R642	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R643	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R644	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R645	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R646	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R647	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R648	1-216-029-00	METAL GLAZE	150	5%	1/10W
R649	1-216-001-00	METAL GLAZE	10	5%	1/10W
R650	1-216-001-00	METAL GLAZE	10	5%	1/10W
R651	1-216-001-00	METAL GLAZE	10	5%	1/10W
R652	1-218-231-00	METAL GLAZE	1		1/2W
R653	1-216-029-00	METAL GLAZE	150	5%	1/10W
R654	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R655	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R656	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R657	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R658	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R660	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R661	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R662	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R663	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R664	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R665	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R666	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R667	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R668	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R669	1-216-033-00	METAL GLAZE	220	5%	1/10W
R670	1-216-033-00	METAL GLAZE	220	5%	1/10W
R671	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R672	1-216-074-00	METAL GLAZE	11K	5%	1/10W

Ref.No.	Part No.	Description			
R673	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R674	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R675	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R676	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R677	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R678	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R679	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R680	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R681	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R682	1-216-029-00	METAL GLAZE	150	5%	1/10W
R683	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R684	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R685	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R686	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R687	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R688	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R689	1-216-025-00	METAL GLAZE	100	5%	1/10W
R690	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R691	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R692	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R694	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R695	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R696	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R697	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R698	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R699	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R700	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R701	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R702	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R703	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R704	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R705	1-216-098-00	METAL GLAZE	110K	5%	1/10W
R706	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R707	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R708	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R709	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R710	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R711	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R712	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R713	1-216-025-00	METAL GLAZE	100	5%	1/10W
R714	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R715	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R716	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R717	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R718	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R719	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R720	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R721	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R723	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R724	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R725	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R726	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R727	1-216-033-00	METAL GLAZE	220	5%	1/10W
R728	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R729	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R730	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R731	1-216-049-00	METAL GLAZE	1K	5%	1/10W

Ref.No.	Part No.	Description
R732	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R733	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R734	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R735	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R736	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R737	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R740	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R741	1-216-025-00	METAL GLAZE 100 5% 1/10W
R742	1-216-025-00	METAL GLAZE 100 5% 1/10W
R743	1-249-409-11	CARBON 220 5% 1/4W
R744	1-249-409-11	CARBON 220 5% 1/4W
R745	1-216-033-00	METAL GLAZE 220 5% 1/10W
R746	1-216-033-00	METAL GLAZE 220 5% 1/10W
R747	1-216-033-00	METAL GLAZE 220 5% 1/10W
R748	1-216-033-00	METAL GLAZE 220 5% 1/10W
R801	1-216-091-00	METAL GLAZE 56K 5% 1/10W
R802	1-216-190-00	METAL GLAZE 470 5% 1/8W
R803	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R804	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R805	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R806	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R807	1-216-629-11	METAL CHIP 120 0.50% 1/10W
R808	1-216-025-00	METAL GLAZE 100 5% 1/10W
R810	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R811	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R813	1-216-641-11	METAL CHIP 390 0.50% 1/10W
R815	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R816	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R817	1-216-025-00	METAL GLAZE 100 5% 1/10W
R818	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R819	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R820	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R821	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R822	1-216-009-00	METAL GLAZE 22 5% 1/10W
RV1	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K
RV2	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K
RV101	1-237-297-11	RES, ADJ, METAL GLAZE 500
RV102	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K
RV103	1-237-298-11	RES, ADJ, METAL GLAZE 1K
RV201	1-237-297-11	RES, ADJ, METAL GLAZE 500
RV202	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K
RV203	1-237-298-11	RES, ADJ, METAL GLAZE 1K
RV301	1-237-299-11	RES, ADJ, METAL GLAZE 2.2K
RV302	1-237-971-11	RES, VAR, CARBON 20KX4 (REC LEVEL)
RV303	1-237-972-11	RES, VAR, CARBON 20K/20K (VOLUME)
RV501	1-237-302-11	RES, ADJ, METAL GLAZE 47K
RV502	1-237-302-11	RES, ADJ, METAL GLAZE 47K
RV503	1-237-101-11	RES, ADJ, METAL GLAZE 4.7K
RV504	1-237-301-11	RES, ADJ, METAL GLAZE 22K
RV505	1-237-301-11	RES, ADJ, METAL GLAZE 22K
RV506	1-237-302-11	RES, ADJ, METAL GLAZE 47K
RV507	1-237-301-11	RES, ADJ, METAL GLAZE 22K
RV508	1-237-302-11	RES, ADJ, METAL GLAZE 47K
RV509	1-237-302-11	RES, ADJ, METAL GLAZE 47K

Ref.No.	Part No.	Description
S1	1-553-977-51	SWITCH, SLIDE (HOLD)
S2	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE) (PAUSE ■)
S3	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE) (REC/INDEX ●)
S4	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE) (FF/CUE ►►)
S5	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(PLAY ►)
S6	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(STOP ■)
S7	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE) (REW/REVIEW ◀◀)
S8	1-571-364-11	SWITCH, SLIDE (POWER)
S9	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(SCAN)
S10	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(◀◀)
S11	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(►►)
S12	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(CLOCK)
S13	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE) (RECORDED TIME)
S14	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(COUNTER)
S15	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(LIGHT)
S16	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE) (COUNTER RESET)
S17	1-571-365-11	SWITCH, SLIDE (LIMITER)
S18	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(SET)
S19	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(+)
S20	1-571-381-21	SWITCH, TACTIL (REFLOW TYPE)(-)
S301	1-570-134-11	SWITCH, SLIDE (MIC ATT)
S901	1-554-154-00	SWITCH, LEAF (SLIDER CHASSIS)
S902	1-554-154-00	SWITCH, LEAF (CASSETTE CONTROL FRONT CHASSIS)
S903	1-570-883-21	SWITCH, PUSH (2 KEY)(REC DET/SOFT TAPE DET)
S904	1-570-771-11	SWITCH (LIMIT DET)
S905	1-570-883-11	SWITCH, PUSH (2 KEY) (1.5 SPEED DET/CASSETTE DET)
SP901	1-503-866-11	SPEAKER
W1	1-565-179-21	HOUSING, CONNECTOR (FPC) 14P
W2	1-566-683-11	HOUSING, CONNECTOR (FPC) 10P
W3	1-565-178-21	HOUSING, CONNECTOR (FPC) 5P
W4	1-565-178-21	HOUSING, CONNECTOR (FPC) 5P
W5	1-566-683-11	HOUSING, CONNECTOR (FPC) 10P
W301	1-565-056-11	HOUSING, CONNECTOR 12P
W501	1-565-058-11	HOUSING, CONNECTOR 20P
W502	1-565-056-11	HOUSING, CONNECTOR 12P
W503	1-565-055-11	HOUSING, CONNECTOR 10P
W504	1-565-057-11	HOUSING, CONNECTOR 14P
W505	1-566-997-11	HOUSING, CONNECTOR (PC BOARD)
W506	1-565-056-11	HOUSING, CONNECTOR 12P
X1	1-567-098-00	VIBRATOR, CRYSTAL (32.768kHz)
X301	1-567-968-11	VIBRATOR, CRYSTAL (81.050MHz)
X501	1-567-967-11	VIBRATOR, CRYSTAL (4.190MHz)
X502	1-567-965-11	VIBRATOR, CRYSTAL (22.5792MHz)
X503	1-567-970-11	VIBRATOR, CRYSTAL (24.576MHz)
X504	1-567-966-11	VIBRATOR, CRYSTAL (18.816MHz)
Z1	1-550-104-11	HOLDER, BATTERY

ACCESSORY & PACKING MATERIAL

1-463-947-11	REMOTE COMMANDER
1-465-018-11	ADAPTOR, BATTERY CHARGE
1-551-734-71	CORD, CONNECTION (RK-C74)
3-345-024-01	CUSHION (UPPER)
3-345-025-01	CUSHION (LOWER)
3-345-036-01	BELT, CARRYING
3-345-037-01	CASE, CARRYING
*3-345-044-01	INDIVIDUAL CARTON (MAIN)
*3-345-045-01	INDIVIDUAL CARTON (LID)
3-701-629-00	BAG, POLYETHYLENE
3-703-708-41	STICKER, SONY SYMBOL (18)
3-769-507-11	MANUAL, INSTRUCTION
4-875-758-01	BAG, PROTECTION
8-810-090-00	MICROPHONE